A VINDICATION OF Dr. Martin Lister. Dr. SYDENHAM's NEW METHOD of CURING *Continual Fevers.*

IN WHICH

A New *Hypothesis* of *FEVERS* is laid down, and all their *Phænomena* are Explain'd, after a *New Method.*

TOGETHER,

With an *Appendix* of the Doctrine of *Insensible Transpiration*; Advanc'd by *Sanctorius*, in his *Medicina Statica.*

To Which

Is Prefix'd an *ESSAY*, Offering some *REASONS* for the Small Progress of *Physical Improvements.*

By *A. Brown*, M. D.

LONDON:

Printed for *John Hepburn*, at the *Three Black Lyons* in the *Strand*, over against *Catherine-Street*, 1700.

TO

The Right Honourable

JAMES

LORD VISCOUNT of

STAIR

Lord *GLENLUCE* and *STRANRAVER*,

LORD PRESIDENT

OF THE

COLLEDGE of JUSTICE.

My LORD,

THAT this Eſſay comes not from Rallery, or Picque, and to pay home the World in its own coyn; nor yet in an oſtentuous manner to impoſe upon Men, in a matter of ſuch moment, I know no ſuch effectual

way to evince; as by first subjecting it to the Touchstone of so exquisit and solid a Judgment as your Lps. you my Lord being the *great Master* of Justice & Reasoning, must also be a Judge most sufficient, of what is Relevant or Consequential here: And further your learned Elucubrations in Natural Knowledge (so very near of Kin to Medicine) giving evidence that your Lordship is no Judge incompetent whither or not there be any sound Philosophy in mine.

By very good consequence then, your Lordships publick Character, bringing your eminent Qualifications upon the publick Stage, to exert themselves for general Utility, (the only Heroick Action Man is capable of,) at once giving you the oportunity, and making it your concern, to contribute all your Talents for the *publick good* and as a no small mean to that end for the Improvement of *Medicine* also, does notably both qualify your Lp: a very fit *Patron* for such a Subject, & encourage me to implore your protection thereto *life* & *health* being so great

great Bliſſings and Benefits to Mankind, makes it indeed no ſmall part of the Politicians Intereſt, to lay out himſelf all manner of ways conſiſtent with his Capacity and Function, for the advancement of Medicine, in relation to the preſervation and procurement thereof to the People: as was lately done by the *Vice Roy* of *Naples*, in ordaining ſeveral conſults to that purpoſe.

Now beſides ſuch Conſults as theſe to be authorized by the publick, *I* know no ſuch effectual courſe for the growth and improvement of *Medicine*, as that your Lordſhip and others in Authority, indued with capacity, would be pleaſed to ſet a part ſome peice of your time, to pry into the *Medical Art*; and indeed this is ſo far from a digreſſion from your main work, that being an extraordinary piece of ſervice for the Publick, it ſeemes no ſmall part thereof: for thus being in a manner Cenſors over *Phyſitians*, you would both excite their Induſtry, and *S*car ſuch as Labour to *S*helter themſelves there, out of the Starting Holes of Artifice and Prudence.

And thus may be in part, Recompenſced the Detriment that *Medicine*, and in Conſequence the Publick *Suſtaines*, by that Arts being under the misfortune to be Rival'd of the moſt pregnant Spirits by theſe other *Studies* of *Law* and Pollicy; *Such* being for the moſt part allured to the Culture of theſe Diſciplines, leaving *Medicine* to theſe of a lower Rank.

And indeed in this Branch of the *Politicians* duety, that moſt Stupenduous Witt, the Lord *Verulam* has ſo luccelsfully Laboured, that giving a *Preſident*, he has alſo given a *Patern* hereof; For that Fulgent Beam of Learning amidſt ſo many *diſpatches* and *blandiſhments* of the Cour, tdid not only diſplay a great many Reſplendent Rays of the firſt &true Experimental *Phyloſophy*, and deſcending into, raked up the Bowells of all Arts and Sciences: but dived ſo deep into the *Penetralia* of *Medicine*, as may give us an earneſt (to be remembered with regrate, that his Stares did not

diſpoſe

diſpoſe him alone to that Study) what ſuch an acute and Penetrating Spirit was Capable of in that Art, had the whole edge of his Vivacious Ingine been bended to *Medicine*, the Force indeed of the mind like all other things being diffuſed giving more Faint Hitts then being recolected & Intent upon one Subject it's able to do.

And ſeeing your Lordſhips *Stars* has diſpoſed you alſo beſide *Medicine*, and conducted you unto the ſpacious Feilds of the Law, where you have made ſuch ample Excurſions & Progreſs to the great Honour & Credit of this Nation, albeit with leſs general Advantage to the whole world, then if you had been a Son & Cultivator of this our Art; Yet it muſt be Confeſſed that you have done Noblely, and made a Notable Eſſay to repair that Damnage to *Medicine*, that having ſeveral Sons, all of moſt *pregnant Spirits* (the eldeſt whereof, called thereto by the greateſt of Men, who muſt alſo be the

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beſt Judge of *Men* deſervedly ſits at the Helm of this Nation,) Your Lordſhip has beſtowed one to labour in this Art alſo, who having already given ſo eminent a *ſpecimen of Sagacity*, by his imbraceing this method of the *Cure of Fevers*. it cannot be queſtioned, but time will compleat in him all theſe Expectations becoming the Son of ſuch a Father.

Emulation and *Envy* notwithſtanding of all the Attempts they are capable of, can never be able to cloud Yonr Lordſhips auſpicious conduct, ſuitable to the ſtation that Providence put you then in; and that in the times of greateſt danger this Nation was in; your Lordſhip being like another *Joſeph* by Providence kept at that time in the Government to allay and ward off the current of the oppreſſion of theſe times, but when deſignes became to be pouſſed with that violence, that they were too hard for ſuch mild meaſures, your Lordſhips Station then made you capable of; another

caſt

caſt of Providence, as a proper expedient; ſent you into that Countrey where was contrived, adjuſted, and from which ſhortly thereafter was brought over, *Our Deliverance*. What your Lordſhip's part was in this Tranſaction, thô reaſon of State may ſtill conceal, yet the care & concern with which that great Inſtrument of *Our Liberation* ſtill follows your Lordſhip, gives full evidence that you did act a part ſutable to your ſelf in that Juncture alſo.

And indeed your Lordſhips Family falling under ſo benevolent *Aſpect* of that *Heroick PRINCE* (**Now our Soveraign**) has a notable opportunity put into your hands, to ſignalize your Nobility with a true and radient Luſtre, in your being Inſtrumental to bring about ſuch Improvements as are ſutable to the *Soil* and Genious of this Country, by ſuch *culture* as your Lp: and other publick Spirits, knows it by Induſtry or *Reformation* capable of, & would quite change the figure of this languiſh-

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ing Nation: And among others the Improvement of the desolate state of Medicine also, of which upon some representation made by me thereof, your Lordship was very sensible, and to this purpose its humbly represented, as a propper expedient, that publick Authority would be pleased to Incite and Incourage the *Colledge of Physitians* here, by authorizing them to such Consults as these lately held at *Naples*, to make all apposit Overtures for the Instauration of *Medical Practice.*

If I had borrowed to this Essay any materials from the rich Mine of your *Physiologia*, this critical Age might have constructed it a forestalling of your Lordships Patronage, and attributed your protection rather to recompense, than to the product of an unbayessed Judgement, and withal as your Lordships exquisite Thoughts are uncapable of any accession from my minuteness, so I humbly depositate mine at your

your Feet as a Teſtimony of my Veneration, and take the liberty to Subſcribe my ſelf,

Your Lordſhips,

Moſt Humble,

Obedient,

AND

Faithful Servant,

ANDREW BROUN.

From my Study, *Edinburgh*, the 13th. of *July*. 1691.

TO ALL INGENIOUS AND FAITHFUL Phyſicians.

IF we conſult Antiquity, it will be found, that the generality of *Phyſicians* for a ſucceſſion of Ages, did rather rely on the diſcoveries already made by the immortal *Hippocrates*, than endeavour to find out new ones. They eſteem'd themſelves ſufficiently qualified for their Office by the knowledge of his Writtings, in which they believed all Medical Skill was comprehended; ſo that in proceſs of time they came to be of ſuch Authority, that to entertain Sentiments of the Nature and Cure of Diſeaſes differing from theſe already received, was a *Heterodony* not to be tolerated. And this

obtained till *Galen*'s dayes, who had the confidence to diſſent from *Hippocrates*, the great Reſtorer of Medicine, about the Nature and Cure of ſeveral Diſeaſes, which for the moſt part he ſtrains to a *Theory* agreeable to the *Philoſophy* of his time, that peſters not only *Medicine*, but *Theology* likewiſe, and that to this day. And thô in the *Ætimology* of Diſeaſes he wreaſts the *Symptomes* to his pre-conceived *Notions*; yet ſuch was the genius of the ſucceeding Ages, that they were content to follow him as a *Patern*, and to acknowledge him for a *Text*; ſo his Works in ſucceſſion of time came to be equally eſteem'd with *Hippocrat*'s, and then nothing was to be received that was not agreeable unto them. And as this for ſome Ages did manifeſtly hinder all advance in Medicine, ſo of neceſſity it creates a vaſt Oppoſition to all new Inventions; of which the *Phyſiological* Diſcoveries in the beginning of this Age are an Inſtance with a witneſs. And thô they had the demonſtration of our Senſes to ſupport them; yet the Credit and Reputation of the ancient *Theory*, (that was quite overturned by them) was ſuch, that with difficulty they were brought to have reception. If it ſo fared than with the Diſcoveries that were not

only

only reaſonable, but demonſtrable by our Senſes; what can we expect ſhall be the Fate of thoſe that have not that advantage to pretend to? eſpecially if we conſider that what we plead for, is, *A new Cure of Fevers*, that is, to encounter the oppoſition of the received practice of all former Ages; which generally ſpeaking was far more ſolid than the *Theory*.

I ſhould indeed then both fail of my deſign, and evacuate the Merit of my Attempt, (ſo be it may juſtly challenge any) if I ſhould offer this my *Mite* to the *advancement* of *Medicine*, and not do it with all the imaginable *Circumſpection*, and *Obſervation* capable to mitigate that oppoſition, and make it acceptable; As firſt, nor to preſent and ſubmit it to you, whoſe *Experience in Medicine*, is able, ſolidly to determine whether the reaſoning here be concluſive or not: And whoſe *Probity* and *Candor*, will never ſuffer you in a matter of ſuch import, to be byaſſed from proferring the Sentiments of a well ballanced judgement; to you then I offer it to be ſeriouſly conſidered, whether or not the method I here endeavour to vindicate, ſhall not only through time, be without cenſure, but at length, (as ſome of the moſt eminent *Phyſicians* in this place, are already

of

of Opinion) will wholly prevail, to the great Credit of *Medicine*, and the inestimable *good of Mankind*; which will indeed fully satisfie the longing wishes of him that is.

A Real Well wisher of You,
and the ART,

A. B.

THE PREFACE

IF any ſhall marvel why, unto the great number and bulk of Books under which, as a ſurcharge, this World in a manner groans; I ſhould add one: Let him know, that this reprimand does very little concern the Phyſitians of this Nation; for while the Phyſicians of all places beſides, has liberally profered to the World their ſentiments in Medicine, ours has been ſo little taken with the Itch of writing on that ſubject, that they have modeſtly kept their thoughts to themſelves. And indeed I, as one of the leaſt, ſhould have been ſwallowed up with ſilence, in the vaſt gulf of time with the reſt; unleſs the like caſe, that is reported to have befallen the Son of Crœſus, had befallen me: For he having been from his birth dumb; ſeing a Souldier ſet upon his Father, (the vehement fervency breaking the bonds that keeped his Tongue fettered) cryed out, Souldier do not kill Crœſus! and indeed the like ſeeming to have hapened to me, has had likewayes the ſame effect: For I having been alwayes Tongue-

tied as to this manner of ſpeaking (that is writting) until I perceived the Endeavours of ſome, to attack not only my Name and Fame, but which is far more; to aſſault with Calumnies and Reproaches, the moſt genuine and ſolid Methods of Medicine, about the Cure of Continual Fevers, *invented and delivered by that Expert Dr* Thomas Sydenham, *and very earneſtly embraced by me, as having found them moſt ſucceſful by experience: In ſo much, that for ſome time bygone, in which Fevers have been very fatal to this place, there has been few that died thereof, which fame* (as much tenacious of depraved fictions as a Meſſenger of Truth) *has not ſcattered far and wide, to have been deſtroyed by me, or this Method: Whence fearing a danger yet more from ihis, that by the neglect of this moſt excellent Method, in this manner noted with Infamy, many of my Countrey-men and Neighbours may be indangered or loſt; what wonder is it then, if ſo great evils private and publick, excite in me ſuch an ardor, as bruſting the bonds of my Tongue alſo, make me poure forth theſe faltering words.*

And further, as in ſome caſes evil manners uſe to beget good Laws; ſo perhaps in this caiſe, Reproaches and Calumnies producing Defences againſt them, may alſo produce and diſplay more plainly the truth and real improvements.

Since

Since then my Reputation seems to suffer Martyrdom for the Publick Concerne and Safety, all kind of reproaches being liberally bestowed on me, for this Cause, and seing I despise my Private utility in respect of the publick Commodity; And neglect the dictats of Self-interest, that whispers to me, that it were easier to go in the broad way with the multitude; or at least to keep such a notable Improvement to my self, then to have left that way; and invite all to be partakers with me in that discoverie: I hope then what I write will be the more acceptable to all good and ingenuous Men.

Having also set before me that mark and more Noble Aim, the general good of Mankind; *I suppose I may reach it the more happily by treading the path of true Vertue; and injuring or reproaching no Man: Yea, not so much as indirectly; unless when I am hampered in the difficulty, requiring private Reputation or Commodity to be offered up for publick safety: As when these offer to start up in the way to barr out this or any other Improvement.*

As few in this place are ignorant of the occasion which gave rise to the Calumnies with which I complain this Method and my self to be blundered, so there is few that know the real truth and Circumstances of the thing as it was

uſed: Wherefore I preſume it will not be unacceptable to ingenious Perſons to hear a faithful Relation of the whole matter.

If by vertue of the advancement with which the writings of the Sagacious Dr. Sydenham *had before inriched Medicine, the reſt of his dictats ſhould vindicate to themſelves as their due, authority and truſt; I, for my part, did alwayes think that theſe were moſt deſervedly to be beſtowed upon them: Eſpecially ſince I had found his former Improvements, being ſubjected to the Touchſtone of Experience and Practice, ſo ſeldom to deſeat the expectation and wiſhes.*

But in the Year 1687 *peruſing the firſt Edition of his* Schedula Monitoria, *where he delivers as confirmed by manifold experience, not only a new, but a quite contrarie Method to the common, of Curing* Continual Fevers: *I did long heſitat, thinking that either he, or all other* Phyſicians *were groſly deceived, about the Cure of* Fevers; *if not, as their Patients uſe to be, they were in an high* Delirium; *and leſt the preconceived opinion that I had of the Mans Ingenuity ſhould ſo far impoſe upon my Credulity, as to draw me into an error likewayes with him; and make me to experiment that method, when I knew not but I might run the hazard to ſacrifice ſome to my Temerity; nothing could ſettle my toſſed thoughts below the ſight and knowledge of the thing it ſelf.*

Pre-

Preſently therefore haſtning to London, *and having met with the Man, and expoſed the occaſion of my coming, I found all theſe tokens concerning him and his Practice, that uſe to beget in warry and prudent People making ſerious Inquiry, Truſt and Knowledge. Then after ſome Months ſpent in this Society, returning home as much overjoyed as I had gotten a Treaſure; I preſently ſet my ſelf to that Practice: Which has proved ſo ſucceſful to me, that ſince that time, of the many Fevers that I have treated, none were unoured, except my Lord* Creichton, *whoſe caſe is related here: And another Woman, whoſe dangerous circumſtances made her condition hopeleſs.*

And among thoſe that were cured, as there were ſome afflicted with that diſproportion of the Symptomes and other circumſtances commonly denoting malignity; which may extol the efficacy of the Method: So there were ſome of my neareſt Relations, as my Wife & ſix of my Children, taken alſo with pernicious Fevers thereby likewayes cured, which is an evidence of my ſufficient proof of the Method: But in the mean time what proportion of theſe that are medicate by the common Method is loſt? which whither it be by the force of the Diſeaſe, or by the Method, it ſeems highly the Phyſicians concern to enquire.

Coming then to my Lord Creichton *the ſix-*

teenth

teenth day of his Fever, when he was given over by all for dead, his Grave Cloaths being prepared, I did reaſon with my ſelf, if, expoſing the credit of this Method; yet in the Infancy to ſuch an hazard, it ſhould receive the foil, it would ſurely be a difficult task to bring it in grace; eſpecially with the Vulgar: But on the other hand weighing, if I could aſtipulate the Method with one or more of ſuch Inſtances of ſucceſs, that this would by great ſteps, and more then the ordinary progreſs of many Years, elevate its Authority and Credit; And ſo I ſhould, haſtning that pace of Improvement to the great benefit of Mankind, ſuperate theſe obſtinate difficulties put by humane Infirmitie, not to ſay worſe, making ſuch always ſlow in advance: For in ſo far only as they have Authority, the beſt and moſt ſalutiferous Methods do only ſtreach their Protection and Safe-guard. And further, I being ſeized with a moſt ardent deſire of the ſafety of that Noble Perſon, there was ſcarce any thing that I eſteemed too much to expoſe to hazard, if it did bring any glimſes of hope of his Recovery: For all the hope that remained with me of his Health, ſeemed to ly in the proſecution of that Method as the caiſe would bear.

But ſurely Divine Providence eſteeming me unworthy of ſuch auſpicious ſucceſs, or to work ſo ſtupenduous a miracle; And alſo finding me altogether

gether Incapable to bear ſo prodigious a Fortune, did therefore ſuppreſs and defeat my hope, and perhapes Ambition, in the Fate of that Noble Perſon.

Now followes the Hiſtory of his Diſeaſe from the time that I did firſt ſee him.

In the 16*th day of his* Fever *(the chief ſymptom whereof being a high and difficult breathing, threatning ſuffocation, and that all along the Diſeaſe.) He was taken with a grievious* Paroxiſm, *wherein he lay ſeveral houres Dumb and Deaf, neither (like a Man expiring,) did be know thoſe ſtanding about him, under this fit his aſthmatick* Paroxiſm *did remitt, by the uſe of an antiparalitick electuary his Speech and Hearing returned, but accompanied with a high* Delirium. *This morbifick Matter being now turgide and moveable, and further Fluctuating from one place to another, and the tranſlation thereof into the Lungs being again impendent, by aſthamatick and anhelous Symptomes beginning; ſeemed to inſinuate the* Indication *of Derivation and Evacuation of that Matter, and that not only according to the rules of this Method, but alſo of the common Method, both coninciding in this point of* Indication *in a Body (Eſpecially ſuch as this patient had) filled with viſcuous Humors; his Strength and appetite being moderatly conſiſtent, and ſome glimpſes likewayes of* Concoction *appearing in the Urine.*

Three

There is then Adminiſtred to him in the 18*th. day, a lenient potion in partited Doſes, which gave ſeveral Stooles without any Pain or proſtration of Strength; after which the anheloſity and Fever ſeemed much to be alleviat, and the Delirium altogether to be gone, in the Evening a ſleepineſs ſeaſed him, and in the night he had ſeveral ſtooles; Neither the day following was the looſneſs altogether ſtoped, now his ſtrength & appetite being conſiſtent, & the dejections being more urgent in frequency then quantity; No* Indication *did yet perſwad the interpoſing a check to them; And the ſleepineſs continuing admoniſhed caution in the uſe of the Paregorick; Yet toward night it was determined by he uſe thereof to Moderat, but not to ſtop the looſneſs. Here the* Curative Indication *in reſpect of the diſeaſe, and* Conſervative Indication *in reſpect of the Strength interferring, required great Caution, leaſt aiming at the Cure of the Diſeaſe by indulging the looſneſs, the Strength might be infringed, or on the other hand, when the Strength ſhould be conſulted by binding up of the Belly, the Diſeaſe and Morbifick matter ſhould become more Impacted, and Regurgitate on the* Pulmons, *then having exhibite that night two ſmall Doſes of the* Paregorick, *I ſeemed to hitt the marke: With which Method throw the whole courſe of the Diſeaſe he was treated: Giving leſs or more Vent to his Belly by the*

the counſel of the more preſſing Indications, *and that by the uſe or abſtinence of the* Paregorick *interpoſing a Moderately warm Dyet, and expectorating* Lohoch, teſtaceous Pouders, *and* volatile Salts, *in ſmall partited Doſes. And indeed this Method ſeemed in ſo farr ſucceſsful that every one that viſited him had great hopes of his Recovery, until the* 24*th. day of his Sickneſs in the morning, the* Morbifick *matter falling again precipitantly into the Lungs, (notwithſtanding his Belly being ſoluble, and neither, in reſpect of the moſt preſſing* Indication, *too much) raiſed again an high and Vehement breathing, moſt difficult expectoration of viſcid Flegm, which threatned to ſtiffle him, with an intenſion of the* Fever, *all which increaſſing, towards mid-day, this Noble Perſon Expired.*

And here it comes to be obſerved, for the Influence it might have upon this Patient, that, that day the Air was infected with the thickeſt Miſt has been ſeen, now how much ſuch Air Influences many Bodies Diſpoſed to receive the impreſſions thereof, notwithſtanding the cloſneſs of Roumes and Fires, many can teſtify by the effects thereof in themſelves, and is further very clear from the Doctrine of Perſpiration, *by which appears how much the Impurity of the Air contributes both to ſtop the perſpirable matter, and to difficultate the Bloods paſſage throw the Lungs; As will be clear afterwards.* In

In the Body being opened all the Bowels and ſolide Parts were found to be ſound, and his Diſeaſe to be only in the Fluides, for the Wind-pipes in the Lungs were ſo puffed up with viſcide flegme, that a Tub being fixed to the Trach-artery, *and blowen as hard as one of the byſtanders could do, yet the Lungs could not be ſtreatched to any further dimenſion.*

This then is the caſe that has raiſed ſuch a Storm of Calumny againſt this Method: And indeed leaſt Men ſhould think that there is no caſe ſo full of difficulty and danger, which will not yield to an effectual Method, therefore this, altho in many it has been formerly effectual, could only prolong his Life for eight dayes; and make ſuch a turn in his condition, as to give no ſmall ſignes of recovery; with a perfect tranquillity all that time both in his Body and mind.

But now to return to the Method, which can be no more convelled by this ſingular Inſtance, yea by many more if they could be given, then other methods may be, under which there are ſo very many that dayly miſcarry, eſpecially ſeing this method is ſo much confirmed by the experiences of many Phyſicians *both at* London, *and here Practiſing it ſo ſuccesfully; that it is rare if at all, any Perſon does dye under it: By which its uſe and ſecurity is ſufficiently confirmed.*

Moreover, in this Eſſay, I have further attempted

ted to ſhew how rational a Method *it is; And that in favours of ſuch Pallats, as can reliſh nothing without that.*

And the Reaſonableneſs thereof will be more obvious to any that will with me perpend the progreſs of the Operation *of the* œconomie, *and remarke that the* animal œconomy *is founded in a* Mechanick *ſtructure, to witt, in matter and motion: Upon whoſe Integrity and Vigour the ſoundneſs of the* œconomie, *and from whoſe* Labefaction, *the vitiation thereof depends, and ſo this* Machine *like other* Engines *has a principle meaſure and end of its motion: The principle is the firſt* Impellent *or* Impetum Faciens, *according to* Hypocrates, *or the* Archeus *according to* Helmont, *or the* Spirits *according to the common opinion, the neceſſity whereof is clear in the ſequel of this diſcourſe: to the meaſure of the motion there is required the due* Energie *of the* Impellent, *and the* Aptitude *and* Sequacity *of the moveable matter; To which when it is liquid, there is required alſo the due* Aperture *&* Smothneſs *of the paſſages throw which the motion is to be made.*

The Energie *of the* Impellent *vitiate is either primarie, and not depending upon the Fault of the moveable matter, and this ſeemes a caſe altogether beyond Art to repair: Or its Fault is dependent, and that is either when its* Energie *is*

augmented

augmented, as when the Humours or Organs do not yield to its due Impulſe, *then to attaine its end, it adds more force; Which often making the motion to be propagated beſide the deſigne, terminates in* Colliſions *and* Reflections; *As if the* Impellent *were affected with* Fury *or* Anger: *As is ſeen in* Convulſions, *and* Hiſterick Affects, *and in* Fevers.

Or the Impellent *may be vitiated by its* Energie *diminiſhed, as when it is ſtupified and* Inviſcat *by groſs Humores, as is ſeen in many* Chronick Affects.

The Aptitude of the moveable matter in the ſolid parts is vitiate by their rigidity, which depends upon groſs Humors that fill up their Fibres, *or their* Junctures *or* Hinges, *upon which in their motion they are turned: the fault in the liquide parts, ſuch as the Humors, whither Alimentitious or Excrementitious, depends upon there groſneſs or viſcoſity alſo; which ſoon begets ſlowneſs, Imprinting a blemiſh upon the functions, & eluding the end of the* œconomy; *Notwithſtanding the Incitation of the* Impellent, *and its outmoſt* Effort *to attain the end of the* œconomy.

The faults of the Channels & Veſſells conſiſts either in their ſtraitning obſtructing or Scabricity? *Which alwayes depend, unleſs when they are from an external and compreſſing Cauſe, upon the ſame groſneſs of Humors ſtuffing their Chanells*

Chanells, Coats, or Fibres.

So the fundamental cauſe of moſt, if not all, Diſeaſes, ſeemes to be the groſneſs of the Humores cauſing their ſlowneſs, making ſoon bad Impreſſions upon the functions; To overcome which, providing the Impellent *be veget and not Inviſcat, it ſtirs up ſtruglings, whence comes* Orgaſimes, Reflections *& other depravations of motion, as conſequential to the attemps for obtaining the due meaſures of its motion.*

Now from this Eaſie & Obvious Hypotheſis *the Nature of* Fevers *is here clearly enucleat, whilſt Authors feign many* Chimerical Phantaſmes *to explain the* Phænomena, *by which they become rather the more Intricat.*

It ſeemes likewayes not improbable that the moveable fluide Matter, being deprived of its due motion, acquires various Configurations of its minute parts which make it troubleſome to the Fibres or Channels of the Veſſels: and this ſeems withal to be the Immediat Material cauſe of many Depravations *of motion, ſuch as* Retractions, Reflections, *and* Colliſion *raiſed by the incitation of the* Impellent; *and ſo from the complication of theſe, the varietie of ſymptoms, and the indefinite multitude of Diſeaſes is begotten.*

And even as that motion of the blood, commonly called Circulation *or* Circuit *of the blood, did ſtrangelie ly in the dark, for many*

Ages

Ages; and was with difficultie received by many, becauſe which was often brought to its reproach, that although it ſeemed to illuſtrate the Theorie *of* Medicine, *yet it made no improvement in the practice thereof: ſo now that noble invention will not only be delivered from that reproach, but will be yet further imbelliſhed, if we can evince this motion of the blood vitiated,* viz. *its ſlowneſs depending upon groſneſs to be, if not of moſt diſeaſes, yet the neareſt and continent cauſe of continual Fevers: And moreover if it can be ſhown of what* Concatenation *or* Complication *of cauſes this neareſt cauſe by order or congreſs is fomented; how many fruitful & ſolid* indications *altogether formerly in the dark, may there be drawn from thence? eſpeciallie ſeing we may be furniſhed with ſufficient means to ſatisfie theſe* indications *& that either by the* correction, intercepting, *or* eradicating *of thoſe cauſes being diſtinctlie known.*

And ſo I have expede this method *of the famous* Sydenham Theoretically *and* Practically *with as much Brevitie and Perſpicuitie as I could: but with what fruit or fate I know not; but if this eſſay be received with the ſame* Ingenuitie *it is offered, if it do not reach to the full deſign, it will at leaſt as is hoped be favourablie conſtructed: For many may run at a prize, but*

but only one enjoyes it: And amongſt all that have attempted to make diſcoveries, none has been ſo happy as to diſcover all; but one has found out one thing; and another an other thing: And Chance rather than Art hath led many Searchers beyond their Intenſions to diſcover notable things: Some whereof may bring light, and other ſome may bring Fruit to medicine; out of which the ſucceeding Ages by a prudent choice, may perhaps gather materialls to compile a more ſolide Syſteme, eſpecially of Practical medicine, then is yet extant: To which whither or not this attempt may contribute any thing, let others judge; but not theſe, that by their precipitant ſentences againſt this method, have made themſelves parties in this Plea.

If no other advantage come of this deſign, this at leaſt I hope may be the effect of it, that as the barking of the little Dogs raiſes the courage of the great ones, ſo theſe aimes may rouſe to the more profound diving into the ſublime and obſcure Nature of Fevers; theſe.

Quibus ex meliori luto finxit præcordia Titan.

But whatſomever benefit or advantage may come to the Publick by this deſign, unto my ſelf praiſe, or advantage, I expect none; becauſe herein having ingaged againſt ſo many, who perhaps

perhaps esteeming themselves obscured, and consequence not a little injured, will necessarlie therefore become picqued; and follow closs the opportunitie and advantages of their resentment.

It being also very certain that in proportion as this Essay appeares fraught with any benefite to Mankind, that the wicked *Serpentine brood* still big with malice, and envious of the good of Men, and which was never more *Dominant* then at this time; Will rake all the corners of *Hell* for *Venom* to bespatter it with; And this may be a Grave marke, by which Honest Men that are not so very *Penetrating*, may Judge whither it contains any thing useful or not.

And as it falls out for the most part in the World, that man makes but a sorry bargain, who gratifies one to the (altho but supposed) detriment of another; the resentment of the injury often proving more heavy, then the result of gratitude for the benefite done can any wayes allay: Reveng being a natural, is also a rank thriving-weed in the mind of man; Whereas gratitude being like an exotick plant requires diligent culture to make it grow there.

But above all, benefits done to the publick, meeting with least acknowledgment and recompense, (having so many concerned have for the most part therefore none concerned) do therefore strangly expose

poſe the Benefactor to the reſentments of thoſe that ſuppoſe themſelves injured, for private and publick Intereſt ſeem to be alwayes at war, where the publick receives the foill: And indeed therefore I might have conſulted my own praiſe and profit more, by treading the broad way, and beaten path with the multitude, thô with ever ſo much hurt to Mankind.

But this is not all, for the World is no more Barren of gratitude and acknowledgment, than it is fertil and productive of Calumnies and ſlanders: And theſe levelling at reputation and Good-name, throw them oftentimes wounding our Fortunes, (the Integrity and Increaſe of the one depending much on the ſoundneſs of the other) makes him that ſteals ones Goods, only ſo much the leſs faulter, than him that wronges their name, in reſpect he that ſteals does it with deſign rather to advantage himſelf, than to wrong his neighbour: but he that wounds ones name, doing it maliciouſly, has nothing for moſt part by the loſs, and even this atrocious cryme, being of deeper dy, has alſo many more intangled therein, then people are well awar: for not only the firſt broaching and venting of calumnies with deſign, is culpable, but alſo all that propagate the ſame; ſince it is no more certain, that fire dies without fewel, than that injurious calumnies and ſlanders die without their being kept in life, by their be-

ing propagate and handed from one to another: the heavieſt part then of the guilt ſeems to lye in that propagating, and ſo on the Propagator: And the want of an injurious deſign in them that do it, can no more excuſe here (all the ſtrength of excuſe lying in the like ſtupid inconſideration of the neceſſary conſequences of ſuch deeds) than he that either hands, or trains with fewel a Fire, tho kindled by another, into the Thatch of a Mans houſe, can be excuſed by pretending Inadvertance or inconſideration; the effects of the one being as obvious as the other: And ſo the matter being duely conſidered, makes the one caſe of no leſs atrocious guilt than the other.

IF any quarrel the Language, or Stile, let him remember the caſe of the Son of *Cræſus:* This being the firſt *Eſſay* I have made to ſpeak after this manner, no wonder, it be not ſo very *Articulate*, as Uſe (which perfites all things) would have made it.

But however defective it ſeems to be in this point; yet ſome Judicious and Ingenious perſons have given ſuch a Teſtimony of it, as may perhaps make me be lifted up, above meaſure; Wherefore I hear there is ſent a Meſſenger of Satan to buffet me, *which being likely neceſſary, is not unacceptable to me, loftineſs of mind, indeed blaſting the beſt and nobleſt Actions of Men.*

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ERRATA.

Epiſtle to Phyſicians page 1. line ult. read *Heterodoxy*, p. 3 l. 24 *for that*, r *tho.* p. 4. l. 3. del. *tho*, p. 8. l. 8. for *choiching* r. *chooſing*, p. 16. l. 7. for *cheicing* r. *chooſing*. p. 17. l. 10. for *ſamen* r. *ſame*. p. 21 l. 12 del. *be*. p. 24. l. 16. for *ſtirring* r. *ſteering*: p. 25. l. 1. for *enter* r. *center*, p. 26. l. 27, del. *of theſe*. p. 28. l. 11. r. *comprehend*, ibid. l. 24. r. *affects*, p. 32. l. 25. r. *too*. p. 38 l. 6 r *choice*. p. 42 l. 1 r. *their* p. 43 l. ult. r. *therefore*, p. 54 l. 10 r *of* p. 61 l. 7 r. *ſubſidiary*, p. 62 l. 23 r. *meaſures* p. 65 l. 17 r. *one*. p. 66 l. 9 r. *thorow* for *throw all throughout*. p. 67 l. 19 del. *to*, p. 72 l. 25 r. *from ratio ſination only*, p. 90 l. 3 r. *had never*, p. 103 l 11. dele. *proportionable*, p. 104 l. 5 r *its*, ibid: l: 9. r. *ordinary*, p. 107 l. penult. dele. *their*, p. 119 l 2, for *which* r. *ſo this*. p 131 l. 20 r. *of the*, p. 135 l. 3 r. *infirmity*, p. 140 l. 13. *viſive*, p. 143 l. 16 r. *it be*. l. 22. dele. *a*. p. 145 l. 1 r. *was near*, for *throw*, r. *all along thorow*.

Epiſtle to the *Phyſicians*, pag. 2. lin. 9. for Etimology r: Etiology, in the Preface, pag 13. lin 2 for Orgaſimes, r: Orgaſms, pag 13. lin. 12. for Approve, r: Diſprove, pag. 210, lin. 1, for Evacuationly, read Evacuats only.

Act of Council.

AT *Edinburgh* the Twenty third Day of *July* 1692 Years, anent the Supplication given in to the LORDS of Their MAJESTIES Privy Council, be Mr. *Andrew Broun* Doctor of *Medicine*; Shewing, That, where the Petitioner has Compyled and Printed a Treatiſe, intituled, A *Vindicatory Schedule about the New Cure of Fevers*, he humbly conceaved, their Lordſhips would not deny him the ordinary Priviledge allowed to Authors, and Compoſers of Boeks: And therefore, humbly Supplicating the ſaid LORDS would be pleaſed upon conſideration of the Premiſſes to give and grant ſole Priviledge and Licence of the Printing of the foreſaid Treatiſe, in whatſomever Language, to the Petitioner, or his Order, for the ſpace of Nineteen Years: And to Diſcharge all Perſons from Printing, Re-printing, or Importing, and Vending of any of the ſaids Books within this Kingdom for the ſaid ſpace, without the ſpecial Licence of the Petitioner, or his Executors, or Aſſigneſs; And that under the pain of Confiſcation thereof, to his, or their behove, beſide what farther Puniſhment their Lordſhips ſhould think fit, as the ſaid Petition bears. The LORDS of Their MAJESTIES Privy Council, having conſidered the above Petition, given in to them be Mr. *Andrew Brown*, Doctor of *Medicine*; They grant the deſire thereof.

Extracted by me,

DA. MONCRIEF *Cles. Sti. Concilii.*

A TABLE
For explaining the hard words of this Book to the Vulgar.

Abdomen, (ſignifies) The paunch or rim of the belly, including the skine, fat, and muſcules thereof.

Attrition, A grinding or braying.

Antecedent cauſe, The cauſe of a diſeaſe immediatly before the neareſt cauſe.

Capillary veſſels, As ſmall as hairs,

Cathartick, A purgative Medicine.

Coagulation, Congealing.

Criſis, The ſudden termination of a diſeaſe.

Craſe, The temper of the parts or blood.

Concatenation, A chaining of cauſes, and effects.

Continent cauſe, The immediat cauſe of a diſeaſe.

Diaphoreſis, A breathing out thorow the ſuperfice of the body by ſweat or otherwayes.

Diaphragma, The Midriſe.

Endemical diſeaſe, Which is very common in a place

Fibres, The ſmall ſhreds conſtituting the fleſhy or nervous parts.

Fomes, The feuel of a diſeaſe.

Glands, Kernels.

Globuls, Little balls ſuch the blood are full of.

Grumaſite, The ſolid parts of the blood that ſubſides,

Hemoragies. Fluxes of Blood.

Heterogeneous, Another kind.

Hypotheſis, A ſuppoſition, or the plate form of any thing repreſented.

Identitions, The ſame.

Idæa, The repreſentation of any thing in the mind.

Inteſtines, The guts.

Firſt impellent, The firſt mover in the body.

Lixivial, Belonging to lie made of aſhes.

Maze, A labyrinth.

Muriatique, Briny.

Meſen.

Meſentery, The membran keeping the guts together

Neovericks, New Writers.

Orgaſme, A tumult or commotion,

œſophage, The weſane.

Animal œconomi, the order in government of the animal.

Paregorick, A quieting Medicine.

Paroxiſme, A fit of a diſeaſe.

Perſpiration, The great evacuation continually made throw the pores of the body.

Pulmonick, Belonging to the lungs.

Phenomena, Appearances or effects of hidden cauſes.

Phleboiomy, Blood letting.

Regimen. The government of the ſix things called not natural.

Scabricity, Roughneſs.

Scheme, A figure or repreſentation of a thing.

Smegmatique, Belonging to ſoap.

Spumoſity, Frothineſs.

Stagnation, The pooling of running liquor.

Syſtole and *Diaſtole*, Contraction and Dilatation.

Suſceptibility, Capacity of receiving impreſſions.

Specifie. To particulariſe.

Specifique, Proper.

Seroſity, The watery part of the Blood or Humors.

Tone, The firmneſs of the parts as to their contracting and dilating.

Tennity, Thinneſs.

Trach-artery, The Wind-pipe.

Vacillant. Tottering.

Viſcuous, Glewy.

Ventricle, Stomack.

Veneſection, Blood-letting.

AN ATTESTATION

Of the Mr. of FORBES His Caſe.

Edinburgh, 7 Auguſt, 1691.

THE Maſter *of* Forbes *coming from* London *falls ſick of a Fever at* Newcaſtle, *where he lay three weeks, and parting from that before his Recovery, he fell again exceeding ill at* Edinburgh; *where conſidering his own deſperate condition, and the multitude of ineffectual remedies uſed in his laſt Fever, for a whole moneth together; And further hearing that there was a* New Method of cureing FEVERS, *practiſed by ſome in that place; he reſolved with Advice of his Honourable Relations, in this Extremity to try the* New Method, *and accordingly* Dr. Broun *was called, ſo with* Dr. Burnet, *the Ordinary, and* Dr. Bruce, *their Advice, that* Method *was proſecuted, as in a very dangerous Caſe; ſo by the* Bleſſing of GOD, *with very good ſucceſs, upon that Noble Patient: And now becauſe ſome perſons envious of the good of Man-*

Mankind, and the improvment of Medicine; would ſmother this ſingular Inſtance of the Efficacy of that Method; *And do therefore maliciouſly give it out, That this Noble Patient was under no Fever: But the ſymptoms under which he laboured, being conſpicuous to all that viſited him, are here Repreſented to the Curious, atteſted by himſelf and his Lady, who attended him conſtantly; And by ſeveral other Perſons of Honour and Credit, who did frequently Viſit him, As follows,*

A Frequent Pulſe.
Watching and Raveing.
Continual Vomiting.
Frequent Fainting, and total Dejection of Apetite.
Extreme Weakneſs, and heavy Sickneſs.

A L S O,

Such exceſſive drought, that he thought he burned within, and was ſo unquenchable, that he drank Four *Scots* Pynts, and more, of cold Water, in twenty four hours.

All was remitted, and Cured by Bleeding once, and Purging him five times, and quieting after-

after each time, till all the Symptomes abated.

There having been ſome debate among the Phyſicians, *concerning the method of Curing this Fever, is a Demonſtration, that it was no weak one: Beſides, that ſuch of them as now have the confidence, to ſay,* It was no Fever. *Did frequently in moſt of our preſence own it to be ſuch,*

Sic Subſcribitur,

WILL. Mr. of FORBES.
ANNA FORBES.
RO. GORDON of Gordonſtoun.
JA. FORBES, Coll.
J. BRODIE, of that Ilk.
SAM. FORBES of Foveran.
DA. FORBES, Advocat.
JOHN FORBES, of Forbestoun.

A VINDICATORY SCHEDULE,

CONTAINING

A Diſquiſition Theoretical, and *Practical*, of the *New*, but moſt Effectual Method of *Curing Continual Fevers*, *Invented*, &c.

SECT. I.

Clearing, that the infallible Principles of Law, Equity, *and* Reaſon, *and the neceſſary conſequences thereof, applicable to the* Phyſician, *does both oblige and direct him to get light in this ſubject, and in the other means of his Improvement.*

IF the Profeſſion, that ſeems moſt deſervedly, to be intruſted with the *Standard* of *Juſtice*, whereby *Humane Actions* are *commenſurable*, does give out, and determine, that to be a *quaſi delict*, or *kind of Crime*, when a Judge, through unskilfulneſs, gives an unjuſt Sentence, tho

Equity and Law, makes the unskilfulneſs of Phiſicians, highly culpable.

thô thereby we only ſuffer in our Goods and that Damnage be alſo reparable, by a Reviſe, or the cognizance of an higher Tribunal: And further if *that Profeſſion*, does calculate the *Attrocity* of *Crimes*, according to the degree of hurt done, together with the the *kind of Negligence* occaſioning it, which if *Supine* and *Affected*, and in matters of *great moment*, and *truſt*, makes then ſo groſs an fault, that being equivalent to *fraud* or *dole*; and thus giving the eſſential thereof, it conſtitutes likewiſe a *a true Crime* :

May not truely then, the *unskilfulneſs* of *Phiſicians*, ariſing from *incapacity* or *negligence*; eſpecially, when *ſupine* and *pertinacious*, and that alſo under a *truſt* ſo great, either bringing, or permitting, (while it is in the power of Art to prevent it) the irrecoverable loſs of Life, juſtly carry the taint of a true, and no ſmall *Crime: Thô with-all ſuch, as rather for want of competent Judges, then for want of ſufficient and crying Guilt, is reſerved wholly to the laſt Tribunal.*

And it being alſo very ſure, that by how much the *danger and loſs*, from the unskilful performance of Medicinal practice, *is greater*; and the difficulty of attaining

taining to skill therein, *is also more*, then in that of the Judge, or any other offices whatsomever; by so much it requires both greater *Judgement*, and *more Labour*, and *Industry* in the Undertakers; and that as well for their accomplishment therein, as for the particular discharge thereof: And indeed such as are rather suitable to the *Import* and *Difficulty* of the work, than to the *Capacity*, or *Ability* of the *Operator*. *It seems therefore, that the only Innocence capable to protect, from the Imputation, and Impeachment of this Crime, is commensurable in proportion to the vigour of the understanding, and activity of Industry, in prosecuting the Qualifications requisite, for the particular, and faithful discharge of this practice.*

Acuteness requisite in *Physicians.*

Whence seem Trespassers here, all those, who not being above the ordinary gifts of Mind, nor endued with a *singular Acuteness*; althô altogether unapt; yet do ingire themselves into this Study, and Practice. That the saying of *Petrarch* de *Remede Utr. Fortun. Lib.* 1. *Dial.* 7. *That nothing is more odious to wisdom, then too great Acuteness*, may have its due use in Morals, and Conversation, where the observation, and stopping at every *Punctillio*, does rather

amuſing retard, then enlightning direct: Yet the ſelf ſame *exactneſs*, and *penetrating*, which thô in *Moralls*, and perchance alſo in *Common Prudence*, is debaſed into *Preciſeneſs*, and *Caprice*, in Medicne, (as exalted to *Medical Prudence*) does really adopt the true *Sons of Art*; For in taking a Survey of the works of *Techy Nature*, in relation to become a Moderator therein, nothing being ſo *Minute*, and *Latent*, but (as capable of, ſo oft ſignal for influence,) deſerves likewayes *expiſcation* and *eventilation*: The practiſe therefore of Medicine requiring, as a large and full, ſo a diſtinct and acurate proſpect; to comprehend all things, that can inſtruct the *Phyſician*, in relation to the knowledge and cure of Diſeaſes, and many of theſe, by their Minuteneſs as well as Sublimity, eſcaping the leſs curious inquirie. *It ſeems then, its only the moſt exact dyveing, (as lyable to the fewſt of ſuch eſcapes) that can of right entitle, to any degree of eminency, and perhaps ſufficiencie in this Imploy*; Or at leaſt, nothing can propitiate for the defect of this, but the proportionable increaſe of Induſtry and Diligence, ſometimes equaling this acuteneſs in ſearch and diſcovery.

§ 3. In the next place ſeem *culpable* here, theſe who albeit endued with pregnancie of Wit, yet do exerciſe the

the practise, by way of *parergon*, or *by-work*; and labour therein, following an other *imploy*, or *study*; perhaps also of that *perplexedness*, and *moment*, requiring likewise their whole endeavours: and thus serving two rigide Masters, and parting their labour betwixt them, they do most unworthily, apprehend themselves, to discharge sufficiently the *diligence* agreeable to *Medicine*, which, considering the *Intricacy* and *Import* thereof; can be satisfied with nothing less, than the continual, and vigorous *bending*, and *intension*, even of the most *acute* and *perspicacious* mind thereupon; & without notable and injurious impairment, can never suffer any such invasion of its right, or to be rival'd by considerable wast of time, bestowed either on *Occupation*, or *Diversion*, beside it self: *Excepting always, the care and concern due to the chief Interest of everlasting happiness, Properly, and Significantly, termed the general calling.*

And they being sequestrate from other Imployes, or Divertisements.

In the next degree come here censurable, any who althô appearing of competent enduements of mind; and further, exercise this Practise alone, yet (as the craving importance and intricacy of this

4. § Dilligence and Industry requisite.

Art

Art altogether requires) are so far from the due and close following, or by serious inquiry, from the careful anticipating, all the expedients of Improvement, that they shift and decline the opportunities; yea already dreſt improvements, laid to their hand: these indeed giving a semblance to have *sloth* for their *ascendant*, and pertinacie for their *predominant*, come thereby so far short of the necessary and possible progress, that they are still Stationary; And while the *Art* it self is in *advance*, they may be said in a manner to be *retrograde*, in true and solide skill.

5. §. The causes of their negligence either the impunity there of here.

Now these being either more knowing persons, and consequently, *conscious of the fault* of their negligence, yet presumeing the altogether impunity thereof, they easily venture on the perpetration of any *crime*, escaping the *tribunal of Men*; or being less knowing, and so less conscious and wicked; then labouring under fundamental errours and mistakes; no wonder they make only such a superstructure thereon, as is suitable to the Laws of *incuriousness* and *ease*.

6. §. Or ignorance of the strict-

For they being altogether in the dark, as to the Nature of that *Obligation*, they put upon the

themſelves, by undertakeing a Profeſſion, that does certainly obliege them, to ſuch exact diſcharge, as makes the leaſt errors, both of *Commiſſion*, & *Neglect*, eſpecially when (as often they are) of dangerous, and *Fatal Purport*; to be placeable to the undertakers acount: If by any qualification from *Capacity*, *Diligence*, & *Scrutiny*, theſe might have been evited, no wonder then (ſince they have no diſtinct, and clear *Impreſſions* of this) they ſhould have likewayes no Stimulating *Impreſſions* from this.

neſs of the Obligation lying on them.

Now the ſtrictneſs of the Obligation, lying upon the *Phyſicians*, in relation to their *diligence*, is not only deduceable from the nature of *truſt* in general, which *Lawyers* (clearly giving out as obliging to the *diligence* of *prudent men*,) make accountable for the lighteſt *errours* and *eſcapes*: But alſo from the nature of theſe *truſts*, that being the ſubject matter of a *profeſſion*, ſeem therefore to imply as a ſupervenient, ſo a ſtricter tye, than ſimple *truſts* do; the very ſetting up to a *profeſſion*, importing no leſs, then as the undertakers aſſerting his Capacity, ſo a kind of invitation, to be truſted therein:

7. §
The Nature and Extent of it cleared from Law and Equity.

and

and this certainly putting him under an accountableness for meer neglect, of any sort; seems to put him likewayes under a stricter *obligation*, to accomplishment, then these *trusts* do others, which being the subject of no *profession*, are indifferently committed unto, and administred by any: for the *Mandator* choicing a person that by no character of *profession*, gives out himself qualified for the *trust*, he can expect or exact no more from him, but suitable to the *Skill* and *Qualifications* he really has: Now *Medicine*, beside what is common to it, with other both *trusts*, and *professions* implyes yet a stricter Tye: for almost in all other imployments, the Qualifications being so far discernable, that importing the Imployers acquiescence, from his choice, in that measure of skill, he finds or might find, him he trusts, endued with; he cannot justly charge him with the *escapes*, especially of *Skill*, he saw or might easily perceive him lyable to: but in the Profession of *Medicine*, the Qualifications lying so deep, that it is hard to perceive, whether they be there, or not; this makes it difficult likewayes, to make a solid election, where to place that *Trust*: Here therefore being *Trust*, upon *Trust*. *Viz.* Not only

only the *Patients* truſting himſelf, to the *Phiſitians Skill*; but alſo the truſting the ſufficiency of that *Skill*, to the *Phiſician* himſelf: This muſt therefore neceſſarly, put the *Phiſitian* likewayes, under the double obligation, as well to ſufficient capacity in his Employ, as the faithful diſcharge thereof: For could the *Patient* clearly deſcern, where the moſt eminent qualities, deſerving ſuch a *Truſt*, were lodged; he would only choice to lodge there likewiſe, the *Truſt* of the great concern of his *Health*, and it may be *Life* alſo. Now if ſimple *Truſt*, oblige to ſuch *exactneſs*, as makes the leaſt Errors chargeable, what accuracy does this *agregation* of *Truſt*, (as being the ſubject both of a *Profeſſion*, and of one ſo *momentuous*, and *intricat*, that it includes a double truſt) oblige unto.

§. 2.

The eſpcapes of meer *Neglect* thô (rather for want of the *Phiſicians* ſufficient *Senſe*, than through his *Innocence*) giving no check; yet theſe being often equally, *fatal* here, with errors of *Commiſſion*, ſhould not this undoubtedly therefore, prompt him to ſuch an *Indefatigable*, *Vigorous*, and *Univerſal Search*, as may juſtly give him, the infallible *Aſſurances*, that even

even these *escapes*, (under the qualification of *might, and should have helped*,) shall never rise in judgement against him, it being a very sure, thô sad and frequently incurred *Certification*, that in so far, as the *Phisician* fails, in this dilligence, in the proportion to the *consequence* of the *Escapes*, arising from the neglect thereof; he is undoubtedly rendered guilty, even of a *Criminal* thô secret *deceit* in his *trust*.

§. 9. The *Phisician* in his Practice, being to march in an extraordinary narrow path, environed on the one hand, with the *dangers* of *escape*, and *neglect*; and on the other hand, with the *perills* of *positive* and *plain hurting*: So then he often studying too *cautiously*, or rather *ignorantly*; to avoid hurting, may be miserably frighted into, the *timorous neglect* of the *eradicating*, and only *effectual Remedies*, and contrary-wayes, by serious Incumbency on these, he may rub on the other extream of hurting: There seems therefore to be nothing, but the sure *evidences*, and plain *instructions*, of this assiduous, and serious Application, that can obtain to him a full and positive exoneration, bearing, that he has altogether freed both these, (indeed very close lying together) *extrems*: Or that any *de-*

clenſion

elenſion, to either ſide; (whoſe *frequency* is as *certain*, as it ſelf is *ſecret*) is ſo much *venial*, that being unavoidable, and therefore of the nature of *caſual*, he can nowayes be made acountable for it, however, that the difficulty to avoid hurting the *Patient*, is more than is commonly apprehended, will be plain, by conſidering that theſe Remedies that to a mean Tincture of Skill, appear *innocent*, (and this thô a *ſilly one*, is the beſt Commendation many can, and do give, their *Remedies* and *Methods*) yet theſe *innocent* Remedies, may by a greater degree of Knowledge, diſcovering much enveaglement of croſſing circumſtances in the Diſeaſe, be diſcryed really dangerous; and farther, another Remedy, that this degree of *Knowledge*, may in place of theſe acquieſe in, by an higher pitch of Skill, (*armed* with more *perſpicacity*) may juſtly be repudiat: And ſo through all the degrees, unto the fartheſt attainable pitch of *humane Art*, (which unto a degree of farther Skill may alſo yet appear ſhort) the *greater* may ſtill ſee more, than the *leſſer*: So it is plain, that as no attainable proportion of knowledge can abſolutely ſecure the *Artiſt* even from real hurting, ſo its only the outmoſt attainable proportion, can atone for the guilt of it.

And

And on the other hand, if we turn to the conſideration of *neglect*; we will find it may ly in a point not a whit leſs *Nice*, and *Important:* As when a *Patient* is (notwithſtanding of all the *Phiſitians* endeavours) loſt; yet if there could have been any Remedie in Nature or Art, which ſerious application, conſideration, or other diligence, might have made known to the *Phiſitian*; and by which he might have ſaved his *Patient*, then and in this caſe, *of whom*, and *of what dyes the Patient*, I pray you?

In how nice a point neglect may ly and the coming under the poſſibility thereof, alarms ſufficiently to inquiry.

Now this bare poſſibility of *Neglect*, albeit overly conſidered, and under the Notion of a *Peradventure* only; it gives ſmall impreſſion on the mind; yet the concernment it carries to the *ſaving* or *looſing* the *Life* of Man, being cloſely laid home, cannot but raiſe ſuch an *anxiety* in any thinking or tender *Phiſitian*, (eſpecially under the clamorous Rumours, ſeeming to impeach him of ſo important and groſs negligence) as nothing can calm, but a *ſerious*, *impartial*, and *thorow Inquiry*, at *experience*. And this the rather he may be prompted to, becauſe ſuch experience lying open to his view, as the reſult of other Mens Induſtry, does

does not oblige him to try by himſelf what he reckons *dangerous* and *new experiments*; and then it is not doubted, but the iſſue of this will (putting off all ambiguity) reſolve this *peradventure* into a *certainty*: Unleſs it happen as may reaſonably be feared, that ſuch a *reſtineſs*, as needs to be ſo hard ſpurred on to the duty of *Inquiry*, will alſo in trifling the *Survey* of *Experience*, altogether defeat the hopes of true *diſcovery*: But at length as there ſeems to be nothing that can approve theſe Remedies, given out by the ſure experience of others to be of all yet known the *moſt effectual*; but as *palpable evidences* of their *ineffectualneſs*, built on the like *exact experience*; ſo it is hoped none will let their *logick* out go their *honeſty* ſo far, as to bring any ſuch agrument againſt them. And withal it would be noticed, (as it frequently falls out in other matters) that althô ſuch *miſtakes* as (in theſe that are willing to be informed by evidence) are eaſily curable; yet the longer they be *wilfully* and *tenaciouſly* maintained againſt *light*; (beſide the *execution* and *havock* they in the mean time do make) they do thereby become the more *confirmed* and *habitual*; and make the *delivery* therefrom, if ever, alwayes with more *difficulty*, *torture*, and *remorſe*; than otherwayes it would be.

Now

Now from all theſe, as it is certain that *palpable inconſideration*, *unconcernedneſs*, and *neglegence*; may equipe out plain *incurious ignorance*, and *inconvinceable pertinacy* under the colours of *diſcreet* and *warry caution*; ſo the concluſion of the whole terminates in this, that the only *directive light* the underſtanding is capable of, doth ariſe from the ſparkles made by the *colliſion*, and ſmart ſtroaks of this *brisk ſcrutiny*; and alſo that the alone *ſolide peace* the mind is calmed by, flowes from the *Reflection* and *Conſcience* of this *ingenuous labour* and *inquiry* throughly and ſincerely performed.

SECT. II.

Containing a Model of the Phiſicians *diligence by which it will be plain, that Induſtry alone furniſhes the Motives, Opportunities, and Means of Improvement.*

FOr further manifeſting of all this, it ſeems neceſſary to give a *ſcheme* & draw a *Land-skip* of this *diligence*; which being plainly done will ſerve as a *Directive* to the *Phyſician* in this *dangerous* & *difficult road*: for it being thus in whole ſubjected to his view, will manifeſt the *proportion ſymmetry*, and *direct tendency* of all the parts of this *diligence* to the great end of his *Improvement*, and to the Diſ-

charge

charge of theſe *ſtrict Tyes* lying upon him by his *truſt* and *profeſſion*. But ſuch a *Figure* being only obvious and taking to the eye of a *perſpicacious mind*, any other never being able to diſcern Order or Uſe herein, (becauſe rather repleniſhed with prejudices againſt *Induſtry*, than ſuſceptible of any *perſwaſive Impreſſions* of its conduceableneſs to true *knowledge* and *skill*) will let it paſs both in *portraiture* and in the *life* altogether uncopied and unregarded.

The general diligence of his accomplishment.

In proſecution then of this, it comes to be remarked, that tho the *truſt* of the *Phyſitian*, as being alwayes verſant in particulars, may ſeem likewayes acquitted by a *diligence* and *diſcharge* alſo particular; yet this particular in its Qualification and due Exercile, altogether depending upon and being the product of a *diligence* more *general*, and of *accompliſhment*; the delineating then of this ſeems firſt to be required.

This *diligence* then of accompliſhment equally reſpecting all the Subjects of *Medicinal practice* ſeems to conſiſt in acquiring ſuch a *ſtock* of *Learning* and *Knowledge*, as may ſerve for particular exerciſe and diſcharge; and this *Knowledge* by the acceſſion of all *New Practical diſcoveries* is ſtill to be on the *improving hand*, for when *Advance* is poſſible, (it being

ing alwayes neceſſary;) this *diligence* cannot endure any meaſure of Skill to be *ſtationary*: And moreover this *knowledge* only conſiſts in the *Imprinting* the mind with ſuch *ſolid* and *genuine notions* of the *operations* of *Nature*, in the *production*, *various faceing*, and *cure* of *diſeaſes*; as will direct in choicing and following the moſt effectual meaſures alſo to their *cure by Art*; and theſe *directive impreſſions* may be moſt compleately & effectually gotten, (beſide what the *Phyſicians* own particular and ſerious *contemplation* affords him) by the diligent *queſt* of, exact *ſearch* into, and profound *meditation* upon (for *perfunctorious triffling* and *ſcruffing* is never more unſeaſonable then here) the *works* and *writings* of ſuch *Authors*, who having given the trueſt *Hiſtories* of *Diſeaſes*, and therein unraveling *Natures Intrigues* have proven thereby the beſt *Interpreters* of her *miſteries*, and of ſuch as have deſcended into the fartheſt and loweſt *ſpecifications of diſeaſes*, by bringing moſt light to the knowledge thereof, have alſo brought moſt fruit of *practical* and *methodical Cure*: And further of ſuch as by the native clearneſs and ſuccinctneſs of their method of treating theſe things, illuſtrate the mind with a more *clear* and *durable impreſſion* thereof: and moreover there being ſeveral notable practicable

tical Observations incidently occurring in *Authors*, who deliver the same in no *Systematical method of Diseases*, and also to be met with in common *Medical conversation*. Now these to serve their proper *expedients*, being difficult to be fallen on, and more difficult to be exactly remembred; by means of this *general diligence* deserve (being picked out) to be orderly ranged up; beside, the light that the same so disposed (increasing the stock of Knowledge), to bring to *Theory*, that (being thus in order also more easily run over) they may be more expeditely brought forth upon their proper and particular *Exigencies* of future practice.

§. 2. The benefit of this Diligence.

And indeed this *Concupiscence* in the *Phisician*, thus to appropriate the *Labours* of others, to pluck the better *Fruits* of their *Lives*, to drain the *sweet*, and extract the *quintessence* of their *Works*; is so far from any injury unto them, that with the grateful acknowledgement of their *Merits* and *Praise*, it is the most due retribution of *Justice*; and there seems nothing left us to palliat our ingratitude if we neglect this, but with a Criminal breach of our *Trust*, *Cruelty* to Mankind, and *Unkindness* to our

ſelves: That *inquiry* and *ſearch* being the only appoſite mean of our *improvement*, and including ſo comprehenſive a Benefit, as to be the only proper *Expedient*, in proportion to our Diligence herein to lengthen the *ſhort Life*, (our compiling together the acquiſition of many Lifes, at leaſt compenſing the diſadvantage of the ſhortneſs thereof) and alſo after this manner overcoming the length and difficulties of this *long Art*, to ſhorten the length thereof by our ſpeedy diſciplinating therein. And further the Nouriſhment and Vigour of the Mind, being thus alſo promov'd, this *Labour* and *Exerciſe* ſtands in the ſame relation of *Utility* and *Neceſſity* thereunto, as the natural *Appetite*, *Aſſumption*, and *Digeſtion* of *Aliement* does to the Body; for without this Food of the Mind *taken* in and *digeſted*; thô under the viſard of a *polite Perſonal*, prudence, ſome perſonating Skill and Learning, are by undiſcerning Perſons eſteemed for well *furniſhed*, *robuſt*, and *quadrate Champions* in *Medicine*, and ſo do eaſily faſcinat the *Mobile*, in moſt of things (but moſt of all in this abſtruſe Art) graſping at ſhaddows for ſubſtances; yet to the diſcerning how *ſqualide*, *languiſhing*, and *truely enervate* a *Figure* do theſe make.

The

The other kind of Diligence required in the *Phiſician*, becauſe verſant about particular & individual caſes called particular (and alſo in its due Qualificati on, depending upon the former accurately diſcharged: and farther by its exact exerciſe reciprocally advancing the general ſtock of knowledge by experience for *fabricando fabri fimus*) does conſiſt firſt in that outward care & attendance due by the *Phyſician*; but the neglect of this reflecting too ſure, ſenſible, & pungent inconveniencies on the *Phyſician* himſelf, makes for the moſt part, upon that account, the ſenſible Diligence to be ſufficiently intent and bended; unleſs ſometimes when *Age* and *Prudence*, pretending *Value*, & thereby *Right*, have procured a *patent* of *Reputation* from *Opinion*, (which rarely conſults Merit) to raiſe the price thereof, then with Advantage and Safety it may, and for keeping of its Honour it muſt, become more remiſs, and be made a rarity of: Thô *Medicine* gives no *Monopoliſing Prehemenencies* by vulgar Opinion; and this *Diligence* gives neither Diſpenſation nor Priviledge, but ſuitable to the neceſſity of the preſent exigency. And next, but withal, more eſpecially this particular Diligence does conſiſt, in the *ſecret*, *inward*,

The particular Diligence begets experience.

and *conſcientious Induſtry*, making an *exact Expiſcation* of all concurring outward and viſible *cauſes*, and other circumſtances, with the accurate obſervation of all the *Phænomena* and narrow conſideration likewiſe, of the *diſpoſition of the Body*; by which Light may be brought to, or a genuin *idea* given of, the *continent cauſe*, or *eſſence* of the Diſeaſe in hand; This Cauſe alwayes lying inviſible and ſecretly couched, in the *diſpoſition of the Body*, betwixt theſe *two viſibles* of *outward cauſes* and *Phænomena*. And this *Diligence* here alſo requires the *conſigning of theſe to Writing*; that with more leiſure and effect (all being duely pondered) there may be farther diſcovered, what *effects* the given cauſes are apt to produce in the Body; for by the Contemplation of their *Nature*, may be known what will be the conſequence of ſuch *ſeditious Diſturbers* their invading the *œconomie*; where comes likewiſe to be conſidered the *diſpoſition of the Body*, and its *ſuſceptibility* either of impreſſions altogether different from, or of more grave effects, then theſe ordinary reſulting from ſuch cauſes uſe to be; this commonly reſolving in an *Idioſyncraſia* or *Propriety* of temperament: and thus alſo the *Phyſician*, may conſider fully the *Phænomena*, what

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News and Report they do bring from the inward troubled ſtate of the *OEconomie*; where it is alſo obſervable, thô theſe *Phænomena* being often in diſguiſe, impoſe upon, and deceive the Unexpert; yet being ſoon unviſarded by the ſagacious Artiſt, they may be made to tell, (without diſſimulation) the truth: So by making a judicious *calcule* of the *given cauſes*, *diſpoſition* of the Body, and *appearances*; there may be in moſt caſes more then a probable *computation* alſo be made, and a true *Idea* thereby had, wherein the diſcompoſure of the *OEconomy* doth immediatly conſiſt: and for reſtoring of it, ſolid and ſure *Meaſures* adjuſted and taken, and that either by means of the *Phiſicians* proper, but ſolidly founded *experience*, or that of the more eminent Practitioners likewiſe being conſulted. And this method of conſigning the *Patients* caſe to write, and for the ſame uſe and end, was the cuſtom and practice of that famous Practitioner *Theodor: D. Mayerne* of whom *Harres* in his *Pharmocologia anti Empyrica*, relates, That *in Chroni al caſes, eſpecially ſuch as would permit deliberation, he uſed not to ſhake his Conſultation out of his Sleive, but comitted all the circumſtances and* Phœnomena *of the diſeaſe to his Diaries, about which he*

conſulted his dumb Doctors, & by ſumming up all their Councils, having gotten a true Idea *of the* Diſeale, *he did thence take his indications.*

§. 4. Moreover this exact *conſignation* of the *Patients* caſe to *writing*, being equally conduceable to the *Phyſician*, ſeems to be of far more neceſſity to him (by reaſon of the far greater *import* and *difficulty* of his *Practice*) than that uſual exactneſs in *Lawyers*, their taking up the ſtate of their *Clients* cauſes likewiſe in *writing*, is unto them: For the damnages of their *negligence* thô more perceiveable, are yet more tollerable and reparable then the ſame in *Medicine*; where it is ſcarce permitted to *fault twice*, and over the Brink the *deareſt Life* is irrecoverably precipitated.

§. 5. An journal of the *Phyſicians* practice requiſite. This particular *induſtry* doth farther require the inſerting alſo into a *journal* as a proper conſervatory thereof, the whole *hiſtory* of the *Phyſicians* daily practice; therein being particularly comprehended the Medicines given to each *Patient*, with the effects thereof: For by ſuch an exact *Hiſtory*; he will be ſurely directed, how to take his *meaſures*, and make more ſafe and ready *hitts*, in their caſes, who having been formerly his *Patient*,

Patients, ſtand there recorded as the ſubjects of any remarkable circumſtances, or *ſcene* of *medical Practice:* There being truely few but ſomething various and ſingular in their Temper, doth diſcover it ſelf; which concerning their *ſecurity* and *ſafety*, concern alſo the *Phyſicians diligence* and *fidelity*, to be carefully put in record, and without this record as a *compaſs* to ſteer by, he will be in hazard either to commit ſome error of *precipitancy*, or to loſe time (which the quick current of ſome caſes may render extraordinary value able & precious) in reiterating thoſe *irkſome* & *Nauſeous* (thô *bovering Trials*) to familiarize their nature, temper, & conſtitution, that at firſt his caution did neceſſarly put him upon. And ſuch *Phyſicians* who neglecting this, (eſpecially under the throng of many *Patients*, or conſiderable intervention of time) do not more carefully take up & preſerve ſuch Lineaments, of their *Patients Conſtitutions*, as their occaſions of medicating them does afford; ſave what alone their Memory can give them thereof; ſince thereby they ſeem altogether to tranſgreſs & violate the only condition *inferring the benefit* of their being the *ordinary*, deſerve they not likewiſe to forfeit that endearing relation and the priviledges thereof; which like Love thô

thô it should cover many of the *Physicians* Infirmities; yet scarce any of such important and grosse *Negligence*, where for so small and easie *cost*, they forego so great a Benefit to their Patients.

And moreover, this *Journal* serving the Physician for a *Map* of the various uniformity of the operations of *Nature*, and these even by his own *Survey* drawn from the *Life*; the serious and frequent view thereof, (by giving him more solid, full, and bright *Ideas* of Diseases and their cures only begets that so much talked of (but rarely found) *experimental Knowledge*, which in proportion to its *solidity* will surely direct the steady stirring of his Courses in after practice. And that the solid *experience* in *Medicine* (thô after never so much practice) can nowayes so fully and exactly be produced as by such an exact *Historiography*, is altogether clear from the *multiplicite complexity*, *inveiglement*, and *variety* medical Cases are alwayes circumstantiat with, which undoubtedly therefore require to be most exactly and fully *collected*, *represented*, and *specified*, to im print and conserve in the Mind all these genuine *Ideas*, that are necessary to bottom all these *reflexive*, *comparative*, and *discursive* Acts of the Judgement, requisite

to

to *compute*, *conclude*, and *enter in*, true and consequential *experience*. Moreover, this diligence of compiling an exact *History* of his Practice, (wherein that of others faithfully communicate to him, may also be comprehended) is clearly resembled in its method, and also in its utility confirmed by that diligent care of *Lawyers*, which they do collect and digest into certain classes and heads, all *Decisions* and *Practices* of particular Cases: These indeed being seriously considered and pondered; by *inbrightning*, *unravelling*, & *specifying* their *notions* of *Law*, does give them the truest Impressions of *Right*, which (denoting also experience in Law) must undoubtedly enable them by more certain *Hints*, to make the most solid application of these legitimate *Notions* to particular occasions.

§ 6. Whence is the vanity of the many Observations in Medicine, diseases not being sufficiently unmasked.

But it may perhaps, and not unreasonably, be objected, that the palpable multitude and vanity of such *Observations* in *Medicine*, wherewith the World is pestered, would therefore seem to discharge any farther progress in that road: But if it be narrowly canvassed, whence it is that so few of those Observations being brought

brought again to be reacted on the Stage, of Practice, does either anſwer the Authors Brages, or our expectation founded thereon: Not to call in queſtion the Authors Ingenuity, the true reaſon of this will be rather found to be their want of ſufficient Skill, to have ſet down the Diſeaſes in theſe Obſervations, both ſufficiently *unmaſqued*, and *ſpecified:* This ſurely has in the re-experimenting theſe *Obſervations*, often evacuate the Cure: For firſt, community of *Symptomes* and *Phœnomena* in Diſeaſes in theſe *Obſervations*, alwayes has been found to claſs them under one common *Type*; while many times the Diſeaſes of one *Type*, really diſguiſe themſelves under the *Phœnomena* of another *Type*, ſo, thus the *diagnoſtick* and Diſeaſe being miſtaken, the Cure falls to be ſo in conſequence; and this as it is mentioned and obſerved, ſo it is exemplified by our eminent Author, who has indeed been the firſt that ſuitable to the true genious thereof, has ſhewed the *Proteus* like nature and faſhion of *Hiſterique* affects, that diſguiſe themſelves under the appearances and ſymptomes of many other Diſeaſes, as under theſe of theſe of the *Collick*, *Gravel*, &c. and abundance of others and which being plyed with the Remedies appro-

appropriate for theſe Diſeaſes are indeed more exaſperat than lenified, but ſoon yeild to an *Antihiſterick method.*

§. 7. Next Diſeaſes not being ſufficiently ſpecified.

And next many Diſeaſes which in theſe *obſervations* go under one *general type* as a *ſpecies*, & they made only *numerically* diſtinct, are really rather diſtinct *ſpecies* under that *Type* as a *Genus*; and may differ as much among themſelves, as one *Type* does from another: No wonder then that Diſeaſes and their Remedies being ſet down in *Obſervations*, with little regard to this particular *ſpecification*, if the proper Remedie of one *ſpecies* (often being miſtaken) prove ineffectual to cure another *ſpecies*: And this important and farther ſpecification is firſt alſo obſerved and inſtanced by the ſame *Author*, in the *Small* Pox, which all antiquity had without diſtinction of the two *ſpecies* of *diſtinct* and *confluent* confuſedly treated: For beſide the different *Therapeia* evincing this diſtinction and ſpecification, that notable Symptome of a *diarhæa* ſo noxious in the diſtinct, & nothing ſo, but rather beneficial, in the *confluent*, with ſundry other differences betwixt them, does more fully make this appear.

So that to do any thing effectually in way

way of observation, Diseases require both to be most curiously and carefully *unmasked*, and more particularly and farther *specified*, and the cures which before were in *gross bulk* and *confusion*, ought specially to be sorted by *detail*: *viz.* To every real Disease and proper Species, its own true genuine and particular Cure.

The benefit and necessity of this diligence.

The serious exercise of this double *Diligence*, does not only comprehended the Improvement of younger *Physicians*, but more eminently, pointing thereat, doth recommend the charge of the *Elder*, yea *Eldest* Ones: These being altogether capable by larger and firmer steps, to make both surer and farther advance in this road, the only way leading to any pitch of Skill, in this inexhaustable Art.

And Moreover while *Natures fecundity* (especially impregnat by Mens *Exorbitances* and accidental *Contingencies*) does alarm us with continual Inundations of *complicat*, *disguised*, and *obstinat* Effects; should not then Humane *Wit* and *Sagacity*, impregnat also by *Labour*, *Search*, and *Industry*, prove as broody to discover and obviat both their violent and subtile Assaults.

And

And surely herein as in all the forgoing means of our Improvement, the recent Writers seem to have most successfully laboured, it being those that alone having had the great advantage to be set on their Predecessors Shoulders, must undoubtedly therefore have a larger and better prospect of things; altho withal some of them by reason of that prospect, found it altogether necessary for making true *Survey* and more happy *discoveries* in some Diseases, to take up altogether better *ground*, and new *stations*, and have in consequence laid down more solid and sure measures of practise; and the advantage of others of them being in that they themselves have been Contemporary with the *discovery* and *Specification* of the true Cure of some Diseases: while some others qualifie their advantages and fortunes yet higher, by having had the sagacity to be the Discoverers of these themselves: Now every one of these circumstances singlely, being ground sufficient to recommend recent Writters, (each whereof from these Advantages has made some peculiar improvement) how much then must the

Why recent Writters afford the best means of Improvement.

The great merit of D *Sydenham.*

Com-

Combination of them all, in the perſon of the Noble and Famous D. *Sydenham*, (who ſeems indeed to have made the ſame proportion of Improvement with theſe his Advantages, as the ſuffrage of ſeveral learned *Phyſicians* hereafter to be mentioned bears witneſs) recommend and endear theſe his Labours to all that are mainly either concerned for the benefit of Mankind, or curious of the Improvement of *Medicine*: But theſe indeed are too vaſt capacious and laborious deſigns, to be hampered within (and perhapes alſo interferring with) the narrow, petty, and homeward Projects, the far greateſt part are only capable of.

§. 9. The evil conſequences of Sloath.

From all which it will be plain, that as on the one hand theſe that travel in the way of *Diligence*, (catching the *Opportunities*, ſpurred on by the *Motives*, and guided by the *Means*, and thus being in the ſtraight road) will certainly both land in *Accompliſhment*, and likewiſe neceſſarly take in their way thereto all profitable *Diſcoveries*: So on the other hand, theſe that ſlight *Diligence*, (baulking the *Opportunities*, ſitting the *Motives*, evacuating the *Means*, and being therefore clearly out of the way to accompliſhment,) No wonder

der, that (never meeting therewith) they be neither capable nor ſenſible of excellent *Improvements.*

And farther, as theſe that earneſtly contend in this way of *Diligence*, by tracing ſure and clear ſteps, can only get theſe true and genuine *Impreſſions* of things, that will enable them to make the ſolideſt *Decretory Judgement* concerning the validity of any Improvement, and whereupon they may found true *Experience:* So theſe that linger & deviat, are thereby prone to have *their judgement* (which reſlles muſt ſtill be forming ſome *Ideas*, thô *Chimerieal ones*) ſo depraved & wreſted, by the *alay* of vain *Hypotheſes*, and *Prejudices* of *empty Theory*; that they neceſſarly do carreſs and ſubſtitute a *partial*, *unexact*, and *ſuppoſitious*, in place of *true Experience*: Not much unlike a Garden, that without diligent Culture, becoming naturally all overſpread with uſeleſs and noxious Weeds, yeilds neither Pleaſure nor Profit. And thus it ſeems may be unridl'd that *Paradox*, why ſome *Phyſicians* notwithſtanding of all the Light, Certainty, and Profit therein, may yet remain unproſalyted to excellent Methods: And alſo, that they may (at a blind Adventure, levelling at Innovations) be really found to hitt and beat down excellent Improvements.

SECT. III.

Shewing that too great throng of Practice, hinders both Improvement, and faithful Discharge of the Physicians *Imployment; And that Reputation the occasion of that hindrance is rather the effect of Artifice, and popular Errour then of true Industry.*

AS a necessary consequence of all has been said comes the Censure of such *Physicians*, who (because thereby also straying from the true method and means of Improvement) altho endued with understanding, and nowayes sloathful, yet undertake at once, the Cure and Care of more *Patients* then their Ability; yea, that of the most compleat Artist, according to the due steps and measures can thoroughly expedite: And thus that bottom that would otherwayes carry through, and land safely a convenient number may (being impestered and thronged) be so overloaded, as to lose or hazard all. Every Pasture may be overlaid with too many Cattle, and every Field may be exhausted by two much Corn growing thereon; every Cart or Ship may be overburdened: Yea, every particular Artificer whole work when it is incompleat all perceive to be so,

may

may alſo undertake more then he can diſpatch; and no hurt comes thereby to any but delay: But only the *Phyſician* and *Lawyer* (and ſometimes by a plurality or largeneſs of the Benifice, alſo the *Clergy-men*) ſetting down no bounds of their capacity and undertaking; but conform to the limits of their Truſt; profeſs ſuch a kind of tranſcendent ability as is like a little Omnipotency: Becauſe forſooth for the moſt part no evidence can be had, but their Faith; that the Truſt is honeſtly diſcharged. And thô it be hard to ſet down poſitive bounds in this matter, their capacity being the true meaſure of every Ones undertaking; and althô the Sagacity of ſome be improveable to that hight of dexterity, that they can make ſurer hitts on the wing, then others do poring from their reſts; yet this ſeems to be far from warranding by too much undertaking, to lay a neceſſity on themſelves to be alwayes extemporaneous in their Reſolutions, and to marr the evident and poſſible advantage of ſuch Sagacity; that rather pointing thereat, it does encourage, yea oblige, to the fulfilling the great expectation, that the uttermoſt Improvement of that Acuteneſs by ſufficient deliberation does really promiſe.

Whosoever then is involved in more Business and Practice, then will permit him to discharge the *Diligence* due to every Case and *Patient*, and that both in the general and particular course, as he thus baulks the means of his accomplishment, and never meets with occasions of Improvement, so he necessarly bungles and scruils his work, and deceives his Trust: and seems to have reputation rather the conquest of his Artifice then merit: And such (thô hurried unto precipitancy by a pretended necessity, and straitness of time, but really by avarice) shall undoubtedly be charged with the consequences of their Errors (tho covered with the earth) no less then the rest of the unqualified Labourers in Medicine.

The succes of Artifice and personal Prudence hinders Improvement.

So then in the last and most eminent degree seem Criminal all such, who from Incapacity or Negligence, wanting Skill, do yet (as a *succedaneum* thereof) succesfully bestow all their Wit, Industry, and Care, in the Improvement and Artifice of *Personal Prudence*, rather than *Medical Prudence*; in laying down measures to acquire Fame and Reputation, rather then by true Knowledge

or

or Merit to deserve them: all that such commonly find proper to aspire unto in *Medicine*, is first, a great *Busle* of *external care*, & a most obsequious, and delectable Compliance (for if their Skill be not very sufficient, they give it both cheerfully and also in good measure) unless when the adult Grandour of meer Reputation is improven to that degree by *Artifice* also, to enfranchise from such truckling; and then any thing looking that way, becomes so Meritorious, that it goes on the borders of Supererogation and Munificence: And the next Artifice such follow, is to be Masters and accurate Displayers of some plausible and common thô false *Scheme* of *Theorie*; exactly calculate for the *Meridian* of vulgar Capacity and Curiosity: Now this is enough to shew it quite *Antipods* to Truth and Nature it self, common Capacity being never able to reach the Mysteries of Nature, nor depths of the Medical Art: To which *Theorie* by a dexterity sufficient to subdue popular Rudity, they make all the *Phœnomena* in Diseases and the Method of Cure exactly to stoup; and thus gratifying vulgar Curiosity, they amuse easie credulity into a profound veneration of their Learning and Skill; and that indeed by a learned and

flouriſhing diſcourſe, which unto common people *clinks* as good articulate and clear *ſenſe*, as the Bell does to the Fool.

Now theſe being only garniſhed with the outſide, and wanting the Soul and Life of a *Phyſician*, ſeem much to reſemble the like in Religion going under the Name of *Hypocrites*, for as they under the *maſque* thereof, ſimulating true Piety, and eſcaping all Humane eyes, are only unvailed to the *Searcher of Hearts*; even ſo does Medicine nouriſh the like *ſpurious brood*, cloſe wrapt up in the gliſtering Vail of empty appearance, dazling the eyes of ſuch as ſee no more than Skin deep, and only diſcoverable by the Sons of *Apollo*: Neither is Piety it ſelf, or at leaſt the profeſſion thereof, eſteemed ſo ſacred by ſome as to be exeemed from being a proper expedient of this *Artifice*, the vulgar having ſo great an eſteem of a *Phyſician* with probity; under the Banner therefore of Religion, the ſhorteſt and eaſieſt cut to eſteem & Reputation in this profeſſion ſeems to ly: But Religion can indeed give no more Improvement in this then any other Art, where it may happily for Conſcience ſake quicken Induſtry, and better the Heart; but little the Head: Yea, the only ſpurr that ſtimulats to bear

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out againſt the *tedium* of laborious Scrutiny, ſeems to ly in the perſpicacious glances of the mind clearly diſcerning the utility, yea and neceſſity of labour and diligence; for indeed *groſſer Heads*, thô with honeſt *Hearts*; eaſily cloſing with every thing, find neither the pungency of need nor profit, to ſubject their received ſentiments to the *Touch ſtone* of accurate examination.

And moreover, all theſe Artifices and many more moſt commonly and ſucceſſfully being exerciſed by the weaker ſort of *Phyſicians*, who are alſo themſelves weak Men, and even over the weaker ſort of People, ſuch as Women, and even the weakeſt of theſe alſo, do owe their ſucceſs to this, that the *Phyſicians* Judgement and Capacity, being much of a ſize with theirs, breeds firſt Simpathy and Concord, next brings forth Affection, and at laſt, trains them up to a firm adherence to the *Phyſician:* And this thô a leſs glorious, is no ungainful Conqueſt: For theſe being thus gained to his ſide, by reaſon of their multitude and noiſe, together with their ordinary priviledges of Importunity and Opportunity, with their frequent uſurpations of Impertinency, prove no unſucceſsful nor contemptible Trumpets of his Reputation.

But on the other hand, this unskilfulneſs in ingenious or good Men, when under the Vail of any *Artifice*, doth alſo catch the wary and prudent in a more latent, and conſequently more dangerous hazard in their choole of a *Phyſician*, becauſe judicious Perſons by a ſhort and eaſie reaſoning are able to eſtabliſh ſound Concluſions againſt weaker Men exerciſing this *Practice*, but to draw juſt conſequences againſt theſe of more parts, the Bowels of Art muſt neceſſarly be ſearched into, which by way of *By work* to do, is above the moſt profound Judgements, eſpecially under the diverſion of other Occupations.

The precipitant Judgment of the vulgar and their preconceited opinion hinder improvment and is fatal to people, thô it be the baſis of Reputation.

And as in moſt other Crimes beſide the principal Actors, there are oftentimes alſo Complices, who according to the degree of their acceſſion, are likewiſe culpable, and make the Principal in ſome maner *excuſable*; how much then think you does contribute to foment & cheriſh, and conſequently to extenuate this unskilfulneſs in *Phyſicians*, the precipitant headleſs and ignorant Judgment of People frequently Interpoſed concerning *Phyſicians* and their Practiſe, with the

the fruits of whoſe Unskilfulneſs upon this account they themſelves not undeſervedly ſeeme to be chaſtiſed: For *Opinion* being the *Monarch*, bearing greateſt ſway in the minds of Men, has his Dominion upheld for moſt part by appearances, miſtakes and errors, theſe being the moſt Plauſible wares and Paſſable Coyne in that ſtate; conforme therefore to the ſame meaſures, the Honors and Dignities of that Court fame, and Popular applauſe, and the apanages thereof, are entailed on ſhadows rather then the ſubſtances of true merit: And this *Empire* likewiſe extending it ſelf over the *Province* of *Medicine*, thorow the miſrepreſentations brought therefrom to that court, in depreſſing true merit to exalt the umbrage thereof, exerciſes moſt of its *Tyrrany* and arbitrary *Government* there: For vulgar capacity the only Inteligencer comeing with news from Medicine, never being able to deſcend into the depthes and unfold the miſteries of Medical prudence, is in ſtead thereof taken and deceived with the Prudence of the *Phyſician* only commenſurable to that capacity, and for *Juno* Imbracing the Cloud brings very falſe reports of deſert from the Medical ſtate: thus the way to Skill and Reputation being far laid

laid asunder, layes also on the *Physician* an invincible necessity, suteable to the Laws of another great Monarch of this world *interest*, to improve personal Prudence glistering Ware in the Court of Opinion, and thereby also is looled, or slackned his Allegiance to Medicine, by his being put under the constraint to neglect the study and exercise of Medical prudence, becaule it is circumstantiate with tedious uselesnes here, and perhaps noxious by its frequent interfeiring with the profitable *Art* and use of Personal *Prudence.*

Mankind also being for the most part rather delighted with the Freedom and Liberty of ease, (especially if without loss and not Impeaching on Interest) then with the Yoak of honest labour, and bending of serious Industry, and there being in all human affaires no case so much favoring, yea Inviteing, yea Tempting to sloath, as Medicinal Practice is, (the fruits and effects of all other Arts and Labours carrying a more obvious impress of Industry and Skill then this Practice does, where it is truely difficult to marke the subtile, and fine Steps, by which Art sets the cause a going to produce the effect; or to observe the secret and hidden Concurse it has to Facilitate

litate it, this for the moſt part both makes *Spectators* ignorant, whither *Art*, *Nature*, or *chance* produces the *effect*, & cools the *Phyſicians induſtry*. And further, ſuch being the *Apiſh humor* of *popular ignorance*, that inimitation of its direct contrary *knowledge*, it muſt ſtill be judging, ſentencing, & drawing concluſions, by a reaſoning, ſo ill counterfeit that it bears rather the Character of Madneſs; The vulgar (being apt to miſtake every conſequent in Medicine, for the effect of Skill) often confound by their ſentences, the chances or ſequels of the Ignorant, with the effects of the Skilled, and ſo becomeing Prodigal waſters of the reward due to Skill, by miſplaceing that recompenſe upon its contrary Ignorance, they take off the *allurement*, to Induſtry the Parent of Skill, thus adding to its difficulty, they deprive Mankind for the moſt part of the benefit thereof. And moreover the favourable Judgment of the vulgar concerning the *Phyſician* turniug alwayes to the byals of a foreſtalled Opinion, that is to be Impoſed on them either by his Prudence, or ſome other by-reſpect (it being very hard to have true *knowledge* of his skil) makes it altogether neceſſary for the *Phyſician* to endeavor by Artifice,

tifice, and Culture to become one of the moſt modiſh and plauſible Gallants in the Court of opinion.

And ſo People madly chooſing rather to be artificially Impoſed on, than honeſtly and Skilfully dealt with all, and being willing to purchaſe the gratification of their *humors*, *curioſity*, & *caprice*, tho at the coſt of their better concerns, health and life, comes to be the great *tentation* of *Phyſicians* to waſt their Spirits and time, in ſtudying and exerciſeing Practiſe on the humors of the mind rather then theſe of the Body, to obtain favour, and eſteem to themſelves, rather then health to there Patients, in the mean time neglecting as nothing contributive to theſe Purpoſes, all ſtudy and care of acquireing true and ſolide Skill or Medical Prudence, pre-conceived and pre-acquired opinion ſerving as a refuge & *ſanctuary* from all effects of Unskilfulneſs, and ſcarce any real Skill or Innocence being able to weather out the blaſts of an evil and groundleſs opinion, without the help of *Artifice*.

The vulgar Errors of the preconceived opinion of experienced, diſcovered.

And further years in the *Phyſician* ſeldom fail to contribute a good *Equipage* for *a preconceived Opinion*, and that under the *notion* of *Experienced*; theſe indeed ſerving with little other aſſiſtance to ſet up the Aged on ſome *pinacle*,

of *fame*: Such being the fond *Opinion* of the *populace*, becauſe *Nature* brings all things to *maturity* and *ripeneſs* through time, therefore they think this *Relation* and *Ally* of Nature the *Phyſician* however *inſipide*, *vapide* and *crabbed* ſtuff he be compact'd of, that he muſt be mellowed and brought to the Ripeneſs of *Experienced* alſo thorow time: *But a quite other thing is Experience, then is commonly conceived*, and not being alwayes the product of time in a *Phyſician* it ſeems rather to be the Product of ſagacious Induſtry (after a long contemplating) making ſuch an exact Obſervation of all the concurring Cauſes and Circumſtances going to make up any *Phœnomena* or *Effects*, as may begett in the *Phyſician* an *habitual Promptitude* (ſo far as human Power can reach) to produce or ward off theſe effects or *Phœnomena*, *Pro re nata*; And this Experience is only gotten (as was before Intimated) by the Conſidering and Pondering the moſt exact, clear, and full *Hiſtories* of *Natures Operations*, and *Phœnomena*, whereby the beſt *Notions* of her *Lawes*, *Cuſtomes*, and *Conſtitutions* being Imprinted in the mind; The ſureſt *Directive Ideas* likewayes will ariſe therefrom, how to moderate Supplie and Regulat her *as the caſe requires*.

For

For in the conduct of *Nature*, as the outward concurring and visible causes do empty and waste themselves in the production of the neareſt *Continent Cauſe* of the *Phænomena*, and with concurrence of, and allowance to the *Suſceptibility* of the ſubject they do further ſtamp their *Effigies* thereon, ſo does that *Continent Cauſe* (with the ſame Concurrence and allowance) manifeſt and characteriſe it ſelf by theſe *Phænomena:* And Nature having (thô exceedingly various and multiplicite) yet a Certain *Uniformity* herein, and the Comprehenſion thereof only rendering her in proportion thereto tractable by the Artiſt, this moſt ſurely be the alone thing that denominats *Experience* in *Medicine:* And further as the ſtudy of theſe *Hiſtories* is the road only leading to experience, whoſoever then takes any other way, with how much ſo ever *Aſſiduity & Application* he contend to make progreſs toward *Experience*, ſhall be found walking at random and widening his diſtance always to ſtray the more therefrom.

That a long and conſtant *Practice* is not alone ſufficient to acquire this *dexterity & Experience*, will be farther plain by conſidering the difficile delicate & untractable *Genius* of *Nature*, not improperly comparable to that

that of a *Captious tetchie* and eaſily *irritate* maſter, which makes his ſervice as the exerciſe of a very *Circumſpect Prudence*, ſo an exceeding *hard task*: Yet this Maſter haveing a ſervant, who by his diligence and Caution obſerves Curiouſly what things, and by what order & concurſe of circumſtances, either in his Maſter or the things themſelves, theſe makeing their impreſſion on him, uſe (by grating or cheriſhing him) to excite or lenifie his evil Humour or Canker: And who likewayes faithfully treaſures up in his mind or otherwayes, theſe his *obſervations* to be imployed as directives for the advantage of his future ſervice, this ſervant is not only capable to perform to his Maſter pleaſant and profitable Service, but calming his ſeverities, moderating and governing him, may exerciſe a kind of *dominion* over him: (as it has been obſerved that ſome wyllie Servants in the like circumſtances have done) When another Servant void of this *warrieneſs* and *prudence*, thô growing old in his ſervice, thorow inadvertancy or careleſneſs, miſguiding his Affairs, does ſtill exaſperate him, and ſhall never render him placable, nor any thing mitigate the nature of his *deſpotical dominion*: The ſame very way the prudent

and

and cautious *Phyſician*, Natures Miniſter, carefully obſerving her genius, and by his circumſpection diligently catching and uſing all the opportunities to ſerve her (thereby ſopiting all her ſeverities) will undoubtedly become a *Moderator* and *Arbiter* thereof, and in conſequence have his prudent Service recompenſed by Natures ſubjecting unto the *political dominion* of the *Phyſician*. Whence, it is clear, that *Experience* and *Skill* being almoſt *identified* and acquired & exerciſed by the ſame conditions and meaſures, old age therefore in a *Phyſician*, is no more capable alone to produce *Experience*, then in other Men it begets *Wiſdom* and *Prudence* in the reſt of Humane Affairs.

Yea, Years are very far from bringing on apace with them ſuch a deep rooted and ſolid *experience* in *Medicine* as may yeild a fruitful Harveſt of effectual Practice, where the Aged (and Age bringing on apace with it ſloath) have only grown old in theſe *Hypotheſes* of *Theory*, and *Methods* of *Practice* founded thereon (now of late perhaps both convict'd of error) in which they were at firſt inſtituted, they ſticking as cloſs by theſe as others to the Religion, in which from their Infancy they have been educated, ſuch indeed being the power of educa-

tion

tion, which upon moſt has a *dominion* and *empire*, but upon theſe exerciſes a *tyranny*, in keeping them *manacled* in the chains of *chimerical* prejudices, and fetters of *theoretical* errors ſo much the more hurtful to Mankind, as being really damages under the pretext and ſhow of profitable helps: Eſpecially where ſloth & caſe is in the play which freights them to go to School again, or enter into a new Apprentiſhip, or Vanity and Pride, which layes aſide the profeſſing any thing importing the reproach of that *vain knowledge* that did formerly puff them up: Which indeed would not ſo much depreſs them as the perſeverance therein, does both them and the Common good of Mankind. To err indeed is Humane, but to preſerve therein, notwithſtanding of the Light, and in a matter of much import, ſeems Diabolical.

From all which, it is plain, that as Artifice in the *Phyſician* and Error in the people is the beſt *ſoil* and *compoſt* in the natural *climat* of *Opinion* of the moſt *fragrant* and *luxuriant* Reputation, ſo real Improvement and Art tranſplanted into that clime, are likely (as exotick Plants) to give a very flaccid and languiſhing Figure.

How deplorable then is it, That *Medicine* which

which being for the ſolace of our Miſeries ſhould be, and that by our own faults, ſo depraved as to conſpire with them againſt us, and prove but a miſerable and deceitful Comforter, in ſo fat as the *Artiſt* is put under the ſtrong and invincible neceſſity, by its being moſt eaſie, advantagious, and honourable, to proſecute his own ends, altho with the neglect of theſe of his *Art*: And that he ſhould be put under the puſling difficulty to conſult both his own *credite* and his *Patients Health*, he being obliged to acquire and exerciſe at once qualifications wholy ſatisfieing and advancing his reputation, but of no further uſe. Any other Skill apearing perplexed intricat and ſuperflous, from the care whereof vulgar *Opinion* and *Error* has wholy *Emancipated* him: Becauſe interfeiring with his eſteem at leaſt nothing advanceing it.

The vulgar Error of the vanity of Medicines conſidered & diſproved.

Neither ſeems *Medical induſtry* and *Improvement* under any better circumſtances of thriveing or advance, by another *Opinion* that being prettie triumphant in the *world* is *Endemical* to thoſe, who think themſelves wiſer, as being leſs *credulous* or apt to be Impoſed upon by *Artifice* and *Prudence* then the former ſort: Such thereof only

only look on *Medicine* as an Art big with great Pretenſions, which being brought forth without the Mid-wifery of ſimple *Credulity* amount to nothing worth the while; and ſo run to the other Extream (the Badge likewiſe of profeſſed Ignorance) of doubting and diffidence and conſequently, *Contempt* of all *Medical* Endeavours: Now this *opinion* deems the conduct of our Lives toward their *Period*, committed either to *Rigid* and *Inexorable Fate*, incapable in its *Carrier* of any Stop, or to *Tottering* and *Wavering Chance* unmanageable by the diſcreteſt conduct; and therefore it excludes as vain all means of Health and Life: The former *Opinion* deſpirits and depraves *Induſtry*; this taking aim at *Perſonal Prudence*, quite extinguiſhes and kills *Medical Prudence*: That tempts to *Impoſture* this *Brands* the moſt ſerious and ſucceſful Endeavours therewith: That incourages hopes from the *Phyſicians* Endeavours, (ſince all Dangers under the viſage of evitable, confound leſs then the ſame allayed with no meaſure of hopes to eſcape) and this ſterving all hopes is enough alone to kill the Patient, and make the King of Terrors more terrible, and fearful, implying the ground he has advanced unto, to be recoverable

verable, only at his *diſcretion*, and his *earneſt aſſaults* to be paſt remedy: And it is indeed from no ſmall mixture of this baſe *Allay* in the *Opinion* of ſome, who uſing the *Phyſicians* help, & altogether uncapable of Privacy to their Eſcapes, by putting ſo ſmal value on their Pains & Induſtry, that the aſpiring *Improvement* in this *Art* is likewayes clog'd.

But indeed this robbing of *Art*, to enlarge and dignifie Natures *Empire* over and with all effects, may be properly both reſembled and confuted, by takeing a glance of that groſneſs which poſſeſſed the *Indians*, when they took Ships for great *Animals*, here being nothing but the not comprehending the Artificial *Intrigue* of their ſtructure (the chief cauſe of their *Phœnomena*) that gave riſe to that Miſtake and Error.

So likewiſe, there being many products that to a ſhallow and overly view, althô they bear the Reſemblance rather of Nature than Art; (as a *Watch* appeared to a certain King of the *Indians* to be a living Creature, when he asked what kind of Food it lived on) yet ſuch Products, to thoſe having the Eyes of the Mind capable by a more diving, ſagacious, and poliſhed Inquiry, to make exact and full ſurvey, will impreſs and diſplay their true Nature: This *Capacity*

city being the absolute condition to get true Knowlege without mixture of Imposture; no wonder then, through want thereof, that the busie, active, and restless part of Man, which is still judging be precipitat unto Mistakes and Errors in the Dark.

And indeed this *Turkish* fixing of Fate, in spight of all Endeavours, did it ever hinder any to pull his drowning Friend out of the water, or a Choaking bone out of his Throat? the stop put to Death in his full Carrier and the warding of the most potent and direct Thrusts of *Fate* being here conspicuous, and Diseases being as certain, thô more private, and hardly stopt Leaks to let in Death at, which never makes passages, but only enters in at these which Nature has left open, when Art fails to observe and close them; & also seing the *facultys* of the Mind as well as the *Organs* of the Body, by their natural Strength and Exercise, by Application, or other Artificial Helps, may attain to many degrees of *Perspicacity*, *Activity*, and *Perfection*, beyond what they will be without these, or in one Man under the Advantages of these, more then in any other without them, that the difference (especially in sensible things) is

even *Stupenduous:* Why may not then ſuch Improvement (upon the ground of Natural Vigour) make the Mind *Suſceptible* of many *Impreſſions* giving both Light and Knowledge to eſpy theſe private *Poſterns* Death makes uſe of, and alſo to find the means to ſtop & cloſe them, & here alſo be had as certain *evidences* of *warding off death*, as in the other caſe, thô as proper only to theſe having ſuch *enduements*, as the ſeeing the danger and relief of a drowning Man is proper only to theſe that are not blind.

And that *Conſpiracy* frequently entered into againſt our Lives, by Deaths *Agents*, ſecond Cauſes, tho through its depth, and cunning its above the *Vulgar ſight* to diſcover and *capacity* to prevent and ſtop, yet as it may be reached by the eye of the *ſagatious circumſpect Medical Politician*, may alſo be *counteracted* by his *power* and *Art.*

And it being alſo very probable, that (the Body ſeeming a curions *machine*) motion is the main *ingredient*, if not the very *Eſſence* of our Lives, the *period* whereof conſiſts in a total and permanent ſtop put thereto, and the Integrity of that motion depending on the ſoundneſs of the firſt mover, the matter moved, and the paſſages through which motion is made, it ſeems

this

this Machine is as well as others ſubject to many diſorders, and as other engines have their particular Arts ſubſervient to their *Regulation* and *Redintegration*, which by picking out the cauſes thereof, may by convenient inſtruments and means remove their Stops and help their Diſorders, why may not Art likewiſe take place, in relation to the diſtempers of the *œconomie* of man, were it for no more then to ſave the *Irritancy* of a great part of the Creation, which ſeem pregnant with theſe advantages to Mankind, but being rejected for Inſtruments, or Means here, ſeem of little or no uſe at all: And further what great difference both in the Advantage and Pleaſure may be perceived betwixt Nature going wild at random and liberty, and the ſame ſubjected to Artificial *Culture* and *Improvement*: As may be ſeen in the difference betwixt wild Fields and well cultivat Gardens; yet ſuch as neither perceive, nor know Arts Influence here, would certainly give the honor of theſe improvements only to *Nature*.

And as *Nature* furniſhes Matter in ſome caſes for *Art* to work on, thô in others *Nature* furniſhes only occaſion by its ſtopps, & diſorders, into which it may be brought rather from other cauſes, then any thing

within it ſelf; And ſo may not *Art* be uſefull as a Confederate and alley to help and rectify Nature in the Straits and Diſorders of the *machine* of our Bodies: And as in the Regulating and Helping of all other *Engynes* there may be imployed ſeveral degrees of Art and Skill, as for example in a moſt Curious and Ingenious clock, the diſorders eſpecially ſuch as come by miſguiding, may ſome of them be reſtored by the proper Skill of the owner while for others that are more difficult, he muſt borrow the Advice Help and Inſtruments of a more *Expert Artiſt*, yet thoſe that does not know or believe there are any more expert muſt conclude that the *Maſters* proper Skill and Inſtruments alwayes does the *Fait*: Why may it not be juſt ſo about this *machine* the keeper & maſter whereof Nature, making conſiderable *Efforts* and *Eſſays* for *redentigration* of it's diſorders, but when theſe are *fruſtraneous* then the acceſſion of the Skill and Tools of the *Expert Phyſician* is ſeaſonable, unleſs it fall out here as likewayes in other Machines it often times fals out, that the diſorder tending to it's diſſolution, be in the order of *Reparation* incurable, and ſo requiring the Capacity and Skill of an yet higher *Artiſt*, contriver and maker of that

that *Engyne*, import rather the *Creation* of a New then the *Reparation* of the Old one: Neither does this ſo much diſparage the skil of the leſſer *Artiſt* as extol the *admirable* & *inimitable Art* of *the firſt* and cheif *Architect*, in diſplaying ſo much *Stupendious Skill* in that curious Contrivance of a piece of work, which being maimed in it's ſubſtantial and Eſſential parts and motions is nowayes *Redintigrable* by minor Artiſts.

Now the fruitleſneſs of *Phyſicians* endeavours reſolves alwayes in ſome of theſe; (*viz.*) Either in the want of dew adminiſtration of ſuch promiſing helps as the *Art* does really afford, and that either by the fault of the Patients or other aſſiſtants: This is by an unjuſt Ignorance Pinned on the *Phyſician*: And nixt it may depend on the *Phyſicians* not diſcovering and curing what through *Art* and *Induſtry*, being perceiveable, is alſo cureable: And this does indeed taint him with a certain, thô moſt part ſecret *Guilt*, which the *Criticks* in *Medicine* ſuſpecting, at adventure by an Ignorant Juſtice may caſually *Hitt*, but ſcarcely know: Or finally the unſuccesfulneſs of *Phyſicians* Practice depends upon the caſe, being by Art & Induſtry, either *Indiſcoverable* or *Incureable* or both, eſpecially ſuch as ſudden Accidents and *Eſſential Breaches* which do no more

more concern him to repair, then to be a *Creator*. Now the moſt conceited Pretenders to the Arbitriment of the *Phyſicians* Fame, are altogether in the miſt juſtly to determine them, when ſuch caiſes do occurr.

The uncertainty of Prognoſtick, a great piller of that Error conſidered, & removed

And farther, there ſeems nothing more perſwaſive of the vanity of his Endeavours, then the diſcreet *Phyſicians* unwillingneſs to be brought on the Rack of *Prognoſtick* of the event of the Diſeaſe, this being the queſtion he is firſt and moſt importuned with, and a *quack Expedient* extraordinarly gratifying *Curioſity*, ſeems alſo to be the earneſt of a more *ſolid Skill*: And if he venture thereon, as he luckily hitts, or unluckily miſſes, it does not fail accordingly either to add to, or pare, both his Authority, and that of the *Art*: But the wiſer being ſhye therein, it is conſtructed by moſt, to ſpring from a conſciouſneſs of ſuch uncertainty in the *Art* and *Practitioner*, as puts all Endeavours on the borders of *Fruſtraneous* and *Vain*, and that the Cure when it falls out muſt be rather an effect of Nature or Chance, then of Art and Skill.

But ſurely, *Prognoſtick* ſeems to contribute no more to the Cure of Diſeaſes, then *Pal-*

miſtry

miſtry does to the conduct of our Lives and Fortunes, and any *Dexterous Hitt* therein is improven more to advance the *Phyſicians Perſonal Value* and *Ends*, then theſe of his *Art*, and raiſes more a tottering *Reputation*, then is either the *Product* or *Manefeſto* of any *ſolid Skill*: And *Prognoſtick* being alwayes moſt ſure on the worſt ſide, let all therefore beware that put too much ſtreſs thereon, leſt they get their doubts cured to their greater coaſt, & put the *Phyſician* ſometime in the ſtrait (to ſave the credit of his *Reputation* built on that of his *Prediction*) to neglect, not to ſay worſe, the plauſible means of Cure: Or at leaſt, that theſe ſatisfying marks of his Skill, be rather ſuitable to the uſual events of the vain and empty *Methods* he makes uſe of in the like caſes.

Now farther, althô Medicine be ſeated with much more diſadvantage for a *Proſpect* to make a certain *Prædiction*, then other *Profeſſions*, in which the claim laid to the wiſhed effect cannot be denied, yet theſe cannot contend with Medicine in the certainty of *Prognoſtick*: As for example, in *Law* where the Rights or Strength of both Parties is fully laid open; yet there is often as much diffidence & uncertainty to which ſide the Ballance will caſt: And in *War* where

where circumſtances concurring to bring Light to *Prediction*, may be yet more in the Dark then in *Law*, but not ſo much as in *Medicine*, for thô the Strength and Courage of both ſides, with ſundry other conſiderations affording probable Conjectures towards a concluſion concerning the event, may be diſcerned; yet there may be unſeen *Stratagems*, and accidental *Contingences*, which may make promiſing Victory both to hover and light on the unexpected ſide: And yet all theſe difficulties, or uncertainties in the determining the event, do not ſo much diſparage and make appear vain the Endeavoures of theſe uſeful and noble *Profeſſions*, as they ſerve to quicken the Eyes of *Circumſpection*, and raiſe the value and glory of brave and ingenious *Behaviour* in diſperate and dangerous Caſes, whither ſucceſful or not: But indeed in theſe Arts the wit and direction in the conduct being palpable, where the miſcarriage of the ſucceſs may be pinned, is alſo alike viſible.

Now *Medicine* thô as to *Prediction* it has equal certainty with theſe Arts, yet it has the misfortune to be under far worſe circumſtances, yea, and even under inſuperable difficulties as to the certain and axact knowledge of the preſent poſture and ſtate of Affairs about

about which it is to be an Actor: For being often to act a *Scene* within the *Curtain*, when it self ſtands without, and having none to conſult therein, but very ſubtile and infidious *Intelligencers* the *Phœnomena* and *Symptoms*, (for true and ſure Intelligence, being the life of *War*; Is likewayes the Soul of *Medicine*) and becauſe there is much difficulty, there is need of great ſagacity to unridle and decypher the myſterious appearances bringing Light to the preſent condition of Affairs, and any Light gotten, ſhould rather put the Artiſt upon juſt meaſures how to act then to predict; and make his endeavours run in this, that his hands may not come too ſhort to help ſuch timous diſcoveries as are made by his Eyes.

But in ſum, all this matter being both acted in maſquerade, and among ſuch a croude of common Enemies ſecond cauſes roving up and down, (and having more power and influence then is perceived require alſo alwayes ſtricter Guards then is believed) ſome whereof either by inadvertance or meer accident, may impinge one and overturn the faireſt appearances of Eſcape and Recovery; no wonder then that there can be no more certainty either in the Conduct or Predicti-

on,

on, then the circumſtances & the unalterable nature of the thing does determine & allow: And the Inference of the vanity and emptineſs of *Medicine* in its conduct from the uncertainty of Prediction of the event of that conduct, equally militating againſt other known and commendable Arts, ſeems of no more import in the one then the other caſe.

Upon what does the Arbitriment concerning the Medicinal Practiſe depend.

It being never conſidered among all this *Buſle* of Totturing and Wreſting Medicine to the Touchſtone of very incompetent Judgements, that the only Solid and Prudent knowledge in Medicine turnes upon the *Cardanal hinge* of the true underſtanding & uptaking of the genuine and true propagation of effects from their cauſes; In the due comprehenſion whereof as the *Phyſicians* Skill is eminently denoted, ſo the ſame gives only right and title to the Arbitriment of the *Phyſicians* Fame and Merit: And ſometimes matters here are ſo obſcure from their depth or ſublimity, that the quickeſt perſpicacity of profoundeſt Artiſts will falter and hallucinate, and be modeſtly ambitious of the *Epithet* due to the happy Inquirer.

Felix

Fælix qui potuit rerum cognoſcere cauſas.

while blind *Ignorance* and *Percipitant Imprudence* Spurrs on, almoſt every one to arrogat to be an *Arbiter* therein, but how deſervedly will appear, if we conſider that Health and Recovery is ſtill the work of Nature primarly, and the ſubſidary Help of the *Phyſician* is deſigned only to remove Impediments, now how does this *Arbiter* of *Phyſicians* know whither the *Direful ſymtomes* arriſing in a Diſeaſe, be the effects of obſtacles put by the prepoſterous Ignorance of the *Phyſician* and Regimen, rather then the Native products of the Diſeaſe; Yet after the recovery from this Diſeaſe, when perchance, nature attacqued both by the *Malady* & the *method*, was almoſt brought to ſuccumb, and only by the vigor of temperament eſcapes, notwithſtanding by means of the *Phyſicians Prudence*, never calling Nature to the plea, this *Arbiter* precipitantly and ignorantly gives ſentence approbative of the *Cure*, as redeeming from a prodigious Danger, but in the mean time if any *Interpreter* or *Proxy* were admitted or ſent from Nature to expound and ſpeak, it would clearly evince that the Method made all theſe terrifying ſymptomes, which is evident and palpable from this, that in ſome

diſeaſes

diſeaſes as for example, the *Smal Pox* (which is little noticed by the moſt part) in ſo farr as you indulge a hot and *Cordial Method* and *Regimen*, which indeed is the moſt uſuall in this Diſeaſe, all the horrible dangerous ſymtomes fall on proportionably, whichDiſeaſe being treated with a contrary *Method* and *Regimen*, all theſe do evaniſh or leſſen; Unleſs the former error has engraven them too deep.

The diſparity betwixt the Arbitriment Concerning Practiſe and Policy. and that of *Phyſicians*

Juſtice, *Law*, and *Policy* conſiſt in the conſideration of what contributs to the good & integrity of the *Society*, wherein is comprehended that of every ſingle Perſon; The due proſecution whereof, by theſe intruſted therewith is obvious to the preſpicacious Judgement of moſt if not all, and thô ſome endeavour to *Mountebank* it alſo in *State*, and with the *ſtock* of publick *Authority*, *favour* & *influence* drive *private* and *by-trade*, yet the tendencie of the meaſures being by the Ballance of ſound reaſon examinable, there can ſcarce be any conſiderable or laſting deception therein, every Man almoſt being Maſter of as much reaſon as may with a litle education qualifie him to judge therein, ſo the honeſt Practi-

Practitioners of theſe *Diſciplines* are rarely deſtitute of their due merite and applauſe, or Impoſtors or *Ignorants* under any *Mask* able to rival them.

But it is farr other wayes in Medicine which conſiſting all in matters of fact and experiment drawen out of the *Phænomena* of Nature and Practiſe bears no other trial of reaſon then what is *Commenſurable* by them: for as Nature has its proper *Lawes* and *Cuſtomes*, ſo *Medicine* that *Moderats Nature*, has its proper Meaſures for attaining its ends, ſuted to theſe, the adequatneſs whereof are only conſpicuous to the *Adept* and *Sons of Art*, and theſe genuine and true *Sons of Art* are only among themſelves (as its talked of the Brethren of the *Roſie Croſs*) mutually conſpicuous, eſcaping the ſharpeſt ſighted of all others ſeeing no more but Skine deep in this *Cryptick* Art.

Hence it is that theſe have only uſurped Fame and Reputation in this Art, who having ſtrained & violently bended Medicine by excogitating or feinging *Specious* & *Rational Theories*, by which, altho without reall foundation, the wits of learned Men have been extreamly charm'd, and the Inventers have thereby enhanced great Fame & Reputation to themſelves, but whoſoever having

having their heads ſtuffed with ſuch rational *Theories* ſhall attempt to *Practiſe* conform & pylote by them, will find they are nothing but *wild fire* leading into *devious* & *dangerous pathes*: It's therefore only

Only from Practiſe comes Improvement in Medicine.

Solid and Sound Practiſe that muſt yeild a true *Theory*, and ſuch will altogether quadrate with practiſe, and be farther uſeful thereto, as is plain in ſeveral *Mechanick Arts E:G*: In dyeing where the variety of colcures, and their Multiplicit *Generation* and *Converſion* furniſhes the *Philoſopher* with fine *Speculations*, but none of theſe are ſolid, Profitable, or for the further improvement of the *Art*, unleſs ſuch as are taken from the *practiſe*, or agreeable thereto, ſo the *Mechanick* gives Laws to the *Philoſopher*.

And indeed this method of beginning at *experiments* to eſtabliſh *Theorie* has given both name and ſolidity to the *Philoſophy* of this Age, and diſcovered the vanity and infirmity of that of the former Ages.

As it is in *Philoſophy* called *Experimental.*

Neither was *Philoſophy* more empty, which from *Ariſtotles* dayes, untill of late received ſmall Improvement, then was *Medicine* which from *Hippocrates* time ſo much ſtrayed

ſtrayed from advancement, that leaving his Methods, *to wit*, of diſcribing the *true Hiſtories* of Diſeaſes, and drawing *Indications* therefrom; All Writers almoſt deliver the *Hiſtories of Diſeaſes* ſuperficially, without particular branching, or deſcending into their *Specifications*, but comprehend under one *Type*, theſe that differ much from one another; as alſo, what they deliver, being according to their *Theoretical Hipotheſes*, is more to confirm theſe, then to illuſtrate the Diſeaſe in its *Natural Figure* and *Shape*, from which can only be drawn *Indications* that are tottering: and to ſupply theſe defects, they heap up ſo great a Maſs of Receipts, that the wavering Election, miſtaking the *Remedy* of one Species for another, rarely hitts the Mark: And farther, the moſt part following cloſe the footſteps of their *Predeceſſors* ſeem rather to have *Copied* then *Written*.

Does not then *Medicine* wrapt up many Ages with *Philoſophy*, in the ſame *Fate* of Obſcurity, by the miſt of *empty Theory*? require likewiſe with it to be experimentally inlightned and advanced; for it is not to be judged, that time which has rypned and brought to perfection all other Arts, ſhould leave *Medicine* altogether *Stationary*, as incapable of farther *Culture*, becomes it

not therefore all generous and sagacious *Physicians*, having entered the right path of Diligence leading to true *Improvement*, with all their might to liberate this noble Art, from the chains of Errors and Fetters of Prejudices, and to make it splendidly triumph over all Calumnies and Detractions, to which it has been so long, especially throw vain *Theories*, obnoxious; and that by inquiring, so far as *Natures* Light whetted with *Industry* will go, into a solid and experimental Improvement, and only by such safe conditions and measures as are adequat and proper for acquiring thereof, and thereupon to found a genuin and solid *Theory:* which will not only enlighten the understanding with true Impressions how these experiments are produced, but will also give direction to apply the same true Notions to farther *experimental* Improvements.

SECT.

SECT. IV.

That the great advantage and import of the Improvement of the Cure of Continual Fevers, *making it highly the* Physicians *concern, to advance it, makes also what is already said, as a* Præliminary; *not improper: where also is shown that the common* Indications *and* Diaphoretick Method, *Comonly used in* Fevers, *being considered, ought to be disaproved, and that the* Authors Method *proposed being also considered, ought to be embraced.*

AS in all *Humane* and *Wordly concerns*, there is nothing more *Valuable* and *Precious* to Men, then the Life and Health of themselves, and their deareſt Relations, without which all other *Wordly Comforts* are unreliſhing; So among all *humane ſtudies* and *Arts* (the effects of Mens endeavours to ward off, or *alleviat* to their Miſeries, and Calamities) there is none whoſe due Proſecution and Improvement is more acceptable then *Medicine:* In like maner, there ſeemes to be no ſubject in that *Art*, that partaking more of the general advantage, requires more to be Improven, then this Subject of *Continual Feavers* does: And that

by reaſon of its extent, (for with its *Pendicles* it takes up the half of all the *Diſeaſes* that Men are afflicted with) and of its danger and *Precipitant invaſion*; It being the *Diſeaſe* that by a *Sudden eruption* and *Devaſtation*, in a trice overturnes our Hopes and Comforts, doth therefore make the loſs of Life more bitter and grievous; This *Diſeaſe* ſeeming to Envie and Prevent other *Languiſhing Diſtempers*, or *Wrinckled Age*, in the ſpoil of *Beauty*, and ruine of *Strength*, triumphs in their Sudden and Unexpected downfall; And by the cruell *Ravage* it makes, outdoes a leiſurely diſſolution in diſmal effects both upon the *Souls* and *Eſtates* of many *Mortals*; Men being thereby in ſurprize hail'd out off the arms of ſeemingly *perfect Health*, & *Security*, & throw the vale of *miſerable delirium ſtupidity*, or *Diſtraction*, precipitated into the *Shades* of the other World: life here being taken by *furious ſtorme*, has all the dreadful effects of a *Pitiful ſacceage*, while a *leiſurly diſſolution* gives oportunity for Preparation to make Peace with the *great Monarch* whoſe *Meſſenger Death is*, and for a honourable and happy *Surrender*: And now ſince all this is done under the *Preſidence* of a *Government*, whoſe truſt makes it the concernment thereof to inquire narrowly, whither negligence or miſtake may give occaſio

to

to the Courſe of ſo ſudden a *Devaſtation*, this makes it no leſs the Credit of Faithful *Phyſicians*, then the *Common intereſt of Mankind*, to put the Cure of this diſeaſe to appear in the *firſt rank* for *Tryal*, *Reformation*, and *Improvement*; And may alſo ſhew the reaſon and neceſſity of our going ſo far back and making a *Ramble*, to rally up the whole force of that *obligation* lying on the *Phyſician* to *diligence* aud *Improvement*, and to *conjure* down *negligence*, and *araigne* all *vulgar errors* and *miſtakes* capable to ſtiffle or deprave *Improvement* in this particular Subject, or any other in that *Art*; Such indeed ſeeming to ſtand like Mountains in the way, by ſerious conſideration therefore deſerve firſt to be *removed* and *levelled*.

In Purſuing then of this *Improvement* of the Cure of *continuall Fevers*, it comes to be obſerved, that althô the remote and *Antecedent* cauſe of this, and moſt part of other Diſeaſes, ſeems to be a load of Humours often *viſcide*, yet ſcarce do we underſtand the *ſpecifical eſſence* of this or that humor, which excites this or that ſymptome, and produces the variety of *diſeaſes*, except in ſo far as the nature of the place it clogs produces the *ſymptoms*, (and this being a purely *Mechanical reaſon* gives but little light to the *ſpecifique*

ſpecifique quality thereof) far leſs can we tame theſe *noxious humours* with *ſpecifiq*; or appropriate Remedies, which were indeed the beſt *expe imental impr vement*, were it known; unleſs in ſomuch as the *cortex pernvianus* ſeeming to be the *ſpecifique* of *intermittents* is known; And altho ſome eſſay to explain the *eſſence* of *Diſeaſes*, & lodge it in ſuch *modification* of the *figure*, *quantity*, and *motion* of the *particles* of matter, in reſpect of the *pores*, *fibers*, and *channels* of any Bowel or Organe; which make *obſtruction*, *impreſſion* of pain, *irritation*, *convulſion*, and the reſt of the *ſymptoms* competent to this or that Organe, which *modifications* ſeing they cannot as yet be determined, and pitched on, as by their ſubtilty eſcaping the Edge of the ſharpeſt Ingine, neither can theſe be reached or ſubdued by way of *Indication.*

Therefore as yet all our certain *cure* and *curative indications*, are directed not againſt the *continent* and neareſt cauſe, but only againſt the *ant cdent* cauſe, or *fewel* of the diſeaſe; *to wit*, to carry off the *load* of *humours*, and not to attacque its *ſpecifique*, and *evil* quality, that being ſeldom if ever hit, and if at any time, but by a very faint blow. and althô the *ſpecifique* cure providing it were known, would be both the ſhor-

eſt

teſt and ſureſt, yet this cure might ly open to the like hazard that ſometimes falls out in the Cure of *intermittents*, by the copious uſe of the *bark*, which as our worthy *Author* obſerves are ſometimes thereby tranſlated into a *ſcrobutique rhumatiſme*, the *morbifique matter*, being diveſted of one *ſpecification* or *modification*, puts on another.

Seing there is no *ſpecifique* cure pretended to, in *continual Fevers*, their cure muſt then lean on ſome *indication*; which *falſe Theory* and long *cuſtome*, has made to degrees and decline to the ſatisfying the common *indication* of *attenuation* of the *Febril matter*, and expulſion thereof throw the *pores of the skine*; ſome forceing it by a milder, ſome by a ſtronger, and all urging it by ſome degree of *Diaphoreſis* but ſtill without any triumphant or ſolid, yea rather, with many lamentable and funeſt *experiences*.

The common and diaphoretique method conſidered.

This indeed were no unfit Deſign or Method if the *morbifique* matter were ſo thin and little, and ſticking in the *ſuperfice* of the Body; that it might eaſily yield to the impulſe of *Diaphoretiques*: But on the other hand where the matter or at leaſt the *fewel* of the Diſeaſe is copions,

viſcide

viſcide, and beſets the firſt wayes the *Ventricle*, *inteſtines*, and *meſentery*; in ſo far as you attenuate and force that matter by *Diaphoretiques* in proportion ye ſhal tranſlate and turn the *antecedent cauſe* lurcking there, into the *continent* and neareſt cauſe of the Diſeaſe, *to wit*, by ſubliming that *viſcide* and *obſtructing matter* into the maſs of Blood, and habit of the Body; which ſhall further exaſperate the tumult of the *Fever*, and overwhelm the *natural efflux* and *reflux* of the Blood, and thereafter this matter being carried from the *maſs* of Blood into Head, and *region* of the *nerves*; will likewiſe excite there *ſymptoms* competent to them being ſo infeſted, till at length nature unable to wreſtle under ſuch a *load* of *viſcous* matter poured in upon the *Blood* and *Nerves*, wholly deſpirited and overwhelmed muſt ſuccumb.

The *Fomes* in Fevers conſidered

And that ſuch an *viſcous*, *ſlimy*, and *copious* Matter is at leaſt the *antecedent* cauſe and *fuell* of many Fevers, perchance alſo of all, can be made evident not from any *Ratiocination*, but from *Antopſia* or *Senſe* it ſelf.

For in ſeveral Fevers, eſpecially theſe accompanied with *delirium* or *raving*, there has frequently been ſeen a great quantity of

of ſuch *touch flegm*, ſometimes evacuat by ſtooll, ſometimes by Vomit; and that only by putting the Finger into the Throat; after which evacuation almoſt an total eaſe of all the *Symptomes*, but chiefly of the *delirum* or *raving* did follow; until that after ſome dayes the matter *reeruiting* and *regurgitating*, and bringing the ſame *Symptoms* required a reiterated *evacuation*; which was *ſignaliſed* with the former benefit; and ſo furth, as the plenty of the matter required, until a perfect Evacuation Cured the Diſeaſe: What *novice* in Medicine will judge ſuch plenty of Viſcidity and Slime could be with advantage or ſafety forced into the *Maſs of Blood*, to be expelled throw the *Pores of the Skin*; or that it can be ſo attenuate, eſpecially under the languid natural Heat of Perſons in *Fevers*, that it be noways *hurtful* or obſtructing, when it comes to the ſmall *capillar Veſſels*.

As to the reſt of *Medicaments* uſed in *Fevers*, as *Refrigerants* ſubſervient to the *indication* of *Refrigeration*; ſince it can be ſhown that heat is nothing of the *eſſence* of *Fevers*, & that their proper effect is to encreaſe the *viſcidity* & *tenaciouſneſs* of the humors (perhaps the *continent* cauſe of *Fevers*) they do rather

Refrigerants conſidered.

rather hurt then help: As likewiſe, theſe that are called *Temperers of Acrimony*, and *Sweetners of the Blood* ſeem to be no more profitable, in regard *Acrimony* conſiſts in ſuch a *modification* of the particles of Matter, in their *figure* or *motion*, in relation to the *texture* of the *Organs* or *Bowels*, bringing trouble or pain thereto; and we ſcarce knowing where in that *Modification* making the diſcrepancy betwixt the *Agent* & *Patient* does conſiſt, we can hardly form thereto an *adæquat Indication*: And althô this *mitigative Indication* could be found and ſatisfied, ſince it does naught to the Diſeaſe or its Cauſe, by proſecuting thereof, you advantage no more, then if ye ſhould apply *Anodyne Balſoms* to the Skin, ſore with whipping; and yet ſtill whipp one.

Temperers of Acrimony & ſweetners of the blood

And farther, ſince all theſe *Symptoms* commonly ſuppoſed to ariſe from *Acrimony*, are only the reſult of the efforts of Nature ſtrugling to ride it ſelf of the Diſeaſe, and are raiſed various according to the genius of the matter beſetting, and the *organe* beſett; altho theſe could be perfectly ſubdued, when the Diſeaſe and its cauſe are untouched, what if the Diſeaſe reſtrained in one *Symptome*, ſhall break out into a more dange-

dangerous one; ſo little *coercible* or *obſequious* proves Nature to any *prepoſterous* and *undiſcret* management, that thereby rather are tranſlated, then extinguiſhed or directed its *irregular* and *impetuous* motions; not very unlike as when a Dam of water is kept up by a Bank, without drying up, or diverting the ſource that increaſes it, as it is ſtopt at one breach, it will alwayes make or find another,

As for *Aperients* and *Inciders*, they being much about the ſame *Nature*, have the ſame *Inconvenience* with *Diaphoretiques*; Eſpecially where there is a *Copious fomes*, or great *Obſtructions* in the *Capillar Veins*; For by there grating and grinding off *Particles* from the *maſs* of *groſs* and *viſcide Humores*, they muſt exceedingly increaſe theſe *obſtructions*; every *little particle* ſeeming to be of a like *Nature* with the whole, and ſcarce, when in any quantity, ſubjugable by the motion of the Blood, or capable to be ſo attenuate as to paſs eaſily the ſmalleſt *channels* of the *Veſſells*; Such then being brought there, cannot but have an obſtructing effect. And farther theſe things being narrowly conſidered will alſo make the Truth of that Obſervation of of our *Noble Author* paſt all doubt, that

Aperients and inciders.

many

many and moſt dangerous Symtpomes of *Fevers*, are the native *effects* of the *method*, rather than of the Diſeaſe.

The true method propoſed that is moſt probable.

Leaving then this *Diaphoretique method*, until we find out a *ſpecifique cure* of *Fevers*, ſince we cannot level directly at the *eſſence* of the Diſeaſe, we being moſt part in the dark as to that, what hinders us as is uſual & ſuccesful in many other *diſeaſes*, & which impartial well ballanced experience has found to be alſo ſo here, but that we may proſecute the *Indication* taken from the *antecedent cauſe* or *fewel* of the Malady, by purging; and ſo by intercepting the ſuſtenance, to ſterve that Enemy we cannot get within handy blows of: Is it becauſe in *Fevers* the *tumult* and *commotions* in the *regions* of the Body, in that tottering ſtate of the *OEconomy* would be ſo hightned by the ſpurrs off the Purgative, as to brake out into more furious and incompoſcible *Symptoms*? and the *Orgaſm* that was formerly only in the *Maſs of Blood*, ſhould thereby break over alſo into the *Region* of the *Nerves* and *Head*, and ſo beſet, pervert, and overwhelm the firſt *ſprings* of *Motion* and *Life*.

Now

Now althô this difficulty ſeems not impertinently to be ſtarted, yet whoſoever ſhall lay a great weight thereon, will betray great inconſideration and inadvertance to what our Noble *Authour* has delivered concerning the reaſonableneſs of this Cure, for he clearly ſhews both by reaſon and experience, that the Inconvenience and *tumult* ariſing from the *irritation* of the *purgative*, is very efficaciouſly reſtained by the immediately preceeding *Phlebotomie*,& the ſubſequent uſe of the *Paregorick*; and how happily the *Cathartick* is adminiſtred under this *double check*, theſe that have never tryed it cannot ſo much as dream; Notwithſtanding what ever is ſaid to the contrary by famous *Authors* concerning the uſe of *Purgers* and *Paregoricks* in *Fevers*: which althô it be true in the caſe (which is that mentioned by them) where theſe are adminiſtred ſeparatly & without reſpect to this order and method of our *Author*, that they may not only be unprofitable but hurtful, but according to this his *Method*, theſe means are in that order Connected and Ranked, that they become wholy beneficial; For the preceeding *Phlebotomie*, and *Cathartick* paves the way to, and makes ſafe the effecacy of

the

the *Paregorick*, and the Preceding *Phiboto-mie* and ſubſequent *Paregorick* infallibly Checks and Bridles any noxious *Energie* of the *Cathartick*; As more fully ſhall be be ſhown afterward. But in the mean time it may be conſidered that theſe *Practical Phænomena*, beſide the rational appearances they bear, are by ſuch repeated accurate and evident experience confirmed, that they can no more by Arguments be convelled, or their evidence by reaſoning ſtiffled, then the moſt ſenſible and palpable experiments in *Nature* can be.

SECT. V.

Motives to this Method from the Authors Ingenuity Ability, and the prodigious Hazards he eſcaped, and alſo from his Reputation both at Home and Abroad.

SInce then it is obvious to all that the uſual manner of the cure of *continual Fevers* is ſo uncertain and unſucceſful, that it ſhould prompt all good and wiſe *Phyſicians*, at leaſt from commiſeration of *Mankind*, to ſearch and try all ways for a better, yea, and when Men worthy of *Truſt*, whoſe ability and intergrity may not only deſerve, but com-

command *Truſt*, do from their undoubted and certain experience complement them with laying to their hand a more ſure and compleat Method of cure: the Inaptitude or Impropriety whereof none can, ſave from *fictitious* & *chimerical* prejudices affirm or aſſert, but noways from knowledge or experience; in which caſe as its the part of (even the moſt rigorous) caution, to ſuſpend Judgement, ſo it gives the moſt grave and profound marks of Folly and Arrogancy, to pronounce peremptorly any thing concerning a matter of Fact and Experiment, altogether unknown to them. He then that wants Courage or Faith to Experiment it himſelf, neceſſarly muſt watch the occaſion to behold the *Practiſe* of others having this *Method* for conduct, and ſo getting a Mature and deliberate knowlege of the thing, he may then with ſome reaſon pronounce his *Opinion* concerning it.

Whoſoever then ſhall do otherways, and either chide or Condemn this *Method* or only contemn or neglect it; Let him have a care, leaſt being ſuported by prejudicate *Opinions* and *Errors*, he be found to lay an Ambuſh for, and aſſault the truth, and to Sacrifice to his contumacy and ſloath the Lifes

Lifes of the Sick, and the Tears of their Friends: this matter being now ſo circumſtantiat by ſuch clear Evidences and Proofs, that an Errour or miſtake therein cannot be as invincible *Ignorance* excuſable, but as *affected, ſupine,* and *contumacious negligence,* repreſenting a true and attrocious Crime is culpable; In reſpect this method is as clearly (as the *Sun* at noon) diſplayed in the laſt writtings, (emitted at length with the Approbation of the *Colledge of Phyſicians* of *London*; And likewiſe by the private experience of other *eminent Phyſicians* approven) of that *incomparible, ſagatious,* and *expert Practitioner, D: D: Sydenham,* Who, Alace! to the great loſs of *Medicine*, departed this life the 29 *December*, 1689. Whoſe former Writings being moſt acceptable to the *learned World*, and acknowledged to have brought no more pleaſure than profite, moſt deſervedly ought to concilitate Favour, Truſt and Authority to this his laſt *Schedule*, as to his *Letter will* and *Teſtament:* Neither can it go well away with good Men to think, that this great Man ſo oft by ſtrange and ſpecial *Providences* pluckt out of the very jawes of Death, has been preſerved for an *Impoſture*, ſo diſmale to *Mankind*: Thò I cannot ſtay to reckon all the Dangers

Dangers among the Calamities of the late *Civil Warrs*, (where he was an *Actor*) that paſſed with great *difficulty* over his head, as his being left in the Field among the dead, and many other dangers he met with: yet there is one that repreſenting rather a *miracle* than a *common providence*, cannot be paſſed over, which as I had from his own mouth, is thus, at the ſame time of theſe Civil Warrs, where he diſcharged the office of a Captain, he being in his lodging at *London*, and going to bed at night, with his Cloaths looſed, a mad drunk fellow, a Souldier likewiſe in the ſame lodging, entering the Room, with one hand griping him by the breaſt of his Shirt, with the other diſcharged a loaden Piſtol in his boſome, yet, ô *ſtrange*! without any hurt to him, moſt *wonderfully* indeed, by ſuch a narrow ſheild as the edge of the Souldiers hand, was his breaſt defended; for the admirable providence of *God* placed & fixed the tottering hand that gripped the Shirt into that place & poſture, that the edge thereof and all the Bones of the *metacarpe* that make up the Breadth of the hand, were Situate in a right line betwixt the mouth of the Piſtol and his Breaſt, and ſo the Bullet diſcharged neither declining to the one ſide nor to the other, but

An unparalleled danger he eſcaped.

keeping its way thorrow all these Bones, in crushing them lost its force and fell at his Feet, O! *Wonderful* Situation of the hand, And more *Wonderful* course of the Bullet! by any Industry or *Art* never again Imitable! And moreover within a few days the Souldier, taken with a *fever* arising from so Dangerous and Complicat a Wound, died; surely providence does not bring furth so *Stupenduous Miracles*, but for some great and equivalent end.

His Sagacity and Ingenuity marred his Reputation.

And further can it be thought that this great Man, who in all the course of his life, gave so full evidence of an ingenuous generous and perspicatious Spirit, would or could die an' *Impostor* and *Murderer* of Mankind (which imputation to deserve, he frequently professed, would be more heavy to him, then any Punishment could be) for he it was, dispising the blandishments of the world, popular applause, Riches and Honour, yea his own Health wasted with intense and assiduous Meditations and thoughfulness, that liberally sacrificed them all for the *Publick good*; In so far, that after he had long weighed and expended the common and received Methods of *curing* most Diseases & there-

therefore had forſaken & relinquiſhed them as vain and improper, and after his intimate ſearch into the *bowels of Nature* he had diſcovered others more apoſite and Powerful; He thereby only gained the ſad and unjuſt recompence of *calumny* and *ignominy*; and that from the emulation of ſome of his collegiate Brethren, & others, whoſe indignation at length did *culminat* to that hight, that they endeavored to baniſh him, as guilty of Medicinal *hereſie*, out of that illuſtrious *Society*: & by the whilperings of others he was baulked the Imployment in the *Royal Family*, where before he was called among the firſt *Phyſicians*. Behold now the World governed not by *Opinion*, but by perverſe Prejudice and miſtakes! And not only the due Fame and Praiſe of Vertue and Worth ſmothered, but Vertue it ſelf oppreſt: But what wonder that his Noble diſcoveries ſhould be toſſed with the ſame fate, among many other notable *Inventions*, the diſcoverie of the *Circulation* of the Blood long was; which althô it did illuſtrate and embelliſh; and, beſyde the ſelf evidence it bare, did moſt extraordinarly inlighten the *theorie* of *Medicine*, yet was it long kept at the door; and that throw the prejudice of Men, occaſioned by their

uncuriouſneſs to be at any Pains for diſcoveries themſelves; and by Pride, hating to receive light from; or to be beholden therefore, to the labours of others; and thus they choice to part with any improvement, before they hazard ever ſo little of their eſteem: after the ſame manner, and from the very ſame Principle, but with much more loſs and detriment to Men (by the ſame proportion that real profit exceeds meer Pleaſure, and that *Practical* and uſeful inventions do exceed meer *Theoretical* ones) ſeemed his uſeful and *Practical Obſervations* and *diſcoveries* to have been treated.

And thô it may be thought that the courage of this *Magnanimous Man*, which being rather whetted then daſhed, did ſtill perſevere in his begun *Methods*, ſoon might have weathered out this Storm, which not being univerſal but rather *endemical*, was only within the confines of one City, and perhaps but of one *Tribe* and *claſs* of Men; yea and it may be only of one faction of that *Tribe*; yet often ſuch is the force of *calumny*, that the *malevolent* endeavors of a very few, and theſe very weak Men may, like one that can faſter pull down, then twenty can rear up, ſo far blaſt *Reputation* as to make it very hard for *Innocence*, yea for the

the greateſt *merit* it ſelf, to ſet up the head; and that by reaſon of the *Rude* and *Ignorant* vulgars quick and ready ſuſception of falſe aſperſions, in the production whereof the World is *verry* broody, which therefore being in plenty, are cheap, and eaſily come by; Few being willing or able to purchaſe knowledge or the true repreſentation of things, at the coaſt of ſerious inquiry examination and tryal, the neat price thereof. But at length as *truth* & *light* after they are ſmothered in one place, do break out with more brightneſs in another, ſo theſe efforts carried his *Fame* and *Renown* throw all the Corners of *England*, and alſo into foraigne Nations: and the oppoſition he got, inſpiring with *commiſeration* of ſuffering *merit* ſome no ſmall Men, brought ſeveral ſuch over to a conſtant and faithful adherence to him: althô at the coaſt of ſome piece of *Reputation*, (that requiring to be buoyed up with a *complacency* oftentimes interfeiring with honeſty) & among the firſt, that favouted him, as the truely *eminent* and *worthy* D. *Goodall*, had the ſagacity to receive the beſt Characters of him, and of his practice: So had he the *ingenuity* & *courage*, to be the chief, that in his behalf *Cartelling* ignorance and malice, made way for the

due propagation of his moſt deſerved *fame*. And indeed in proceſs of time *Sydenham* was by *Letters* from many *eminent Phyſicians* thorow *England*, ſaluted the worthy *Improver* and *Reſtorer* of *Medicine*; As (among many others,) by *D. Brady*, *Profeſſor* of *Medicine* in the *Univerſity of Cambridge*: And by *D: Paman*, publick *Orator* of that *Univerſity*, and *Profeſſor* of *Medicine* in *Greſham Colledge*, and by *Dr. Cole*, *Phyſician* in *Worcheſter*, as may be ſeen in their *Epiſtles* emitted with his works.

And to ſhow how his Writings were received abroad, among many other teſtimonies can be given, theſe few may ſuffice; In *Ettmullerus*, the *famous Profeſſour* of the *Univerſity* of *Lipſick* his works, he is frequently made *honourable* mention of, by the Character of the *Accurate* and *Elegant Sydenham*.

And *Doleus* the chief *Phyſician* to the *Lantgraue* of *Heſs*, being to put furth his *Encyclopedeia Medica*, by an *Epiſtle* directed to *D. Sydenham*, intreated that he would give him an *Encomium* to prefix to his Book; To which he anſwered, that he was ready to give ſuch as he thought the Book after it was peruſed by him could deſerve, which delay *Doleus* being, it ſeems, a little impatient

tient of, the Book, containing also very honourable mention of *Sydenham*, was set forth with a *fictitious Elogium* under his name: Now it being alwayes precious, and not common and mean things that use to be forged or stollen, this seems not an impertinent Argument of the *Fame* and *Authority* of *Sydenham*, both with him, and whereever he might expect his Books would come.

In *France* likewayes, the worthy *D: D: Spon Physician* at *Lyons*, in his Epistle written in 1681, to the *Abbot* of *Sylvecane* does wonderfully extoll his praise; especially, his dexterity of *cureing Fevers*, which he sayes, are so constantly cured by him at *London*; that he goes under the name of the *Fever cureing Doctor*: Yet *Spon* does wonder that his *methods* are so little either there, or any other where, followed by others.

At length, even in *London* it self, time did, as it does in most other things, help to ripen and promote Truth, and settle these tumults that were raised in Mens minds & hindered its appearance, because not only a new but a contrary *method* in cureing most Diseases, and which appeared to charge the most part also with *ignorance*, and *errour*, seemed to be obtruded

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be *obtruded* on them:&no wonder that Men puffed up with *ſelf-love*, did with difficulty ſwallow over ſuch an *harſh morſel*:but the rancor being ſomewhat remitted, there wanted not ſeveral *ingenious* & *honeſt Phyſicians*, that did acknowledge his merite, among whom was that Famous *D: Michelthwait*, who when near death, (the time that the fume of paſſions being evaniſhed, gives both a more clear *perception*, and ingenuous and ſincere expreſſion of truth,) did profeſs that notwithſtanding of the attempts of ſeverals againſt the *methods* of *Sydenham*, yet theſe would yet prevail and triumph over all other *methods*.

Neither wanted there another Claſs of *Phyſicians*, who tho they had no leſs wit and underſtanding, yet had much leſs honeſty then the former; theſe indeed perceiving the efficacy of his *practice*, did readily imitate it themſelves, but were ſo much *Plagiaries*, that far from acknowledging the *Author*, they were the foremoſt to calumniate him,& it may be his *methods* too; and leaſt they ſhould be taken in the *crime*, had alſo the *ſubterfuge*, either of adding ſome triffling thing to his inventions, or ſaying, they were Maſters of theſe *methods* before he did write or publiſh them.

Then

Then at length, *Truth* by its native force prevailing wholy over *Error*, as *Light* doth over *Darkneſs*, by the help alſo of time, brought forth in the *year* 1688. The ſecond *Edition* of his *Schedula Monitoria*, (as the firſt *Edition* was, likewiſe under *Protection* and *Patronage* of the *worthy D: Goodal*, who had been an aſſiſtant to him in much of that Practiſe; and alſo ſealed with the *Colledge of Phyſicians* at *London*, their *Approbation* annexed to the Book: Where the *Author* delivers this new *Method* of the *Cure of Fevers*, moſt faithfully and clearly, and even that very ſame which the firſt *Edition* contained, and came forth without their *Approbation*: But it ſeems the ſhort ſpace of an year or thereby, betwixt the firſt and ſecond *Edition* of that *Schedule*, did conciliate ſo much favour to the *Author*, and the work, that they declared the ſecond *edition* and the *Method* therein contained, to be worthy and uſeful; and not pernicious; As ſome ridiculouſly affirme, preferring their private judgement taken on a *Superficial* view, and perhaps only by *Hearſay*; To the mature and *deliberate Judgement* of that *Honourable* and *learned Society*.

But the *Honeſty* and *Juſtice* of others more Eminently Diſplaying it ſelf, does elevate his Praiſe ſomewhat ſuitable

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to his deſert, and give him ſuch *Panegyricks*, as without ſufficient merit in the Subject, have never been conſigned to Books or Letters, by ſuch *Wiſe Prudent* and *Learned* Men, as theſe do evidently in their late Writtings manifeſt themſelves to be; And becauſe *in the mouth of two or three witneſſes every thing is eſtabliſhed*, ſo many, whoſe works are now at hand with us, may therefore ſuffice.

D. Morton his Elogium of D. Sydenham,

The firſt is then, that Famous D. *Morton*, in his Treatiſe of *Pthiſical Diſeaſes* or *conſumptions* lately emitted, where like another *Hercules*, he does indeed aſſault that *Herculean Diſeaſe*, with a Method both new and profitable: For according to that common axiome, *Qui bene diſtinguit bene docet*; he has moſt *judiciouſly inſtituted* the ſeveral *ſpecies* & *degrees* of that *diſeaſe*, according to which he has moſt *reaſonably* inſtituted the *Indications*, and *cure* to be varied: And when in his *preface to the Reader*, he is propoſing the ſeveral means of the *Improvement* of *Medicine*, he judges and that very rationally, that it conſiſts alone in *practical Obſervations*, deſcribing Diſeaſes in their real and true Appearances; and therefore he chides the *ſloath* of ſome *Phyſicians*, that ſeem

ſeem to bury with themſelves a great *treaſure of practice*, which they might have acquired: Then he concludes, ſaying, *if I 'were able to hold forth the renown of ſo great a 'Man as our* Sydenham, *I ſhould extoll his 'name to the skyes, and ſet him for a noble Exam-'ple for the moſt experienced Practitioner to walk 'by*? For this Man, being of great Age, and 'having his *natural ſagacity*, wherewith he is '*extraordinarly* endued, further poliſhed with '*long uſe* and *experience*; never ceaſes to im-'prove and illuſtrate with his *Learned Writ-'ings*, the *practical part* of *Medicine*, both to 'the great comfort of the ſick, and the great '*Credit* and *Advantage of the Art*: And that theſe praiſes did proceed from nothing, but the very *conſcience of the merit* of the Man; This Book came forth when *Sydenham* had almoſt bidden adieu to the world, and *Dr: Morton* was ſcarcely known to him by the face.

D. Harris his Elogium.

The other Teſtimony is of that notable *London practitioner Dr: Harris*, in his Book lately emitted, concerning *The acute Diſeaſes of Children*, which containing ſeveral remarkable *Obſervations*, do alſo contain his Teſtimony from the page 45. unto the 51. In theſe words, *ſaying, after I had uſed* "*for ſome years the* like *Method* in Cure-

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" ing of Childrens *Fevers* I durſt not ven-
" ture on the ſame in adult Perſons, until I
" moſt happily met with the firſt *edition* of
" the *Monitory Schedule* of that incomparable
" Practitioner *D. Sydenham*, and finding that
" Method approven of in adult Perſons by
" the experience of that moſt Sagacious
" Man, as much overjoyed as I had gotten
" a great favour from *Heaven*, I preſently
" ſet on to try that Method in adult Per-
" ſons alſo, and found it no leſs ſucceſsful
" then I had found it before in Children,
" and a little after he proceeds, ſaying,
" For his diſcovery of the Cure of *Fevers*,
" and many other his notable Im-
" provements, I hope that every Age, ſo
" long as *Medicine* ſhall flouriſh, ſhall pub-
" liſh his Name; for the great Ornament
" and Light of this Age. *Sydenham* has with
" an extraordinary Courage and Ingenui-
" ty compleated the Cure of *Fevers*, both
" by ſufficient Reaſon, and by Experi-
" ence, and Practice, concerning which,
" others have given nothing but words.

SECT.

SECT *VI.*

Containing the Opinion of ſome Authors concerning the Nature of Continual Fevers, *and the ſame from Reaſon rejected, which makes it neceſſary to inquire for a more probable one, in relation to the clearing their nature, and this Method of their Cure.*

NOw to make this *Method* every way compleat, it is convenient as was inſinuate in the beginning, after the manner that a *practical Diſcipline* ought to be treated, to eſſay, if from this *Experiment* and *Method* of Cure of *Fevers*, we can draw any *unſtrained* and *probable Theory*: Which inquiry neceſſarly preſupoſes the *Nature* and *Eſſence* of *Fevers*, ſeeming yet altogether to ly in the dark, to be narrowly ſearched into and expoſed: Having firſt *weighed* and *eventilate* what the *Ancients* and *Neotericks* has delivered concerning the Nature and Eſſence thereof.

The firſt then, and which is the *Opinion* common to moſt *Authors*, placing the *Eſſence* of a *Fever* in a *Preternatural* heat kindled in the heart, and diffuſed by the Blood

The Opinion that *Fevers* conſiſt in heat.

Blood through all the Body? indeed ſeems a very improper *Metaphorical* Deſcription: For the Heart is compared unto a *Chimney*, neither is there a fewel capable of accenſion determined, there being no fewel in the Body proper to foment a Fire but all as liquid and aqueous contrary thereunto: And although in a *Fever* there be a great heat, the ſame can be made clearly to depend upon another Principle, then any thing of accenſion, as ſhall be afterwards ſhown: and alſo ſeing *intenſe Heat* is only accidental to a *Fever*, and may be abſent therefrom or preſent therewith; it can be nothing of its *eſſence*, more then the reſt of the *ſymptoms* are; for in the cold *Paroxiſme* of *Intermittents* it is abſent for a while, with the preſence of an *Intenſe cold*: And in ſome *algid Fevers* it is always abſent; yea, in *fevers* that are eſteemed *malignant*, it is very mild, and nothing beyond the degree uſual in health; for its reckoned commonly a ſign of *malignity* when the heat does not riſe proportionably with the other *Symptoms*. And farther if Heat were of the *Eſſence* of *Fevers*, in reſpect there is no diſtinct *Species* of Heat, but all the difference thereof is *gradual* by *Intention* or *Remiſſon*, it muſt undoubtedly follow

follow that there can be no diſtinct *Species* of *Fevers*, but only that they are gradually different; which is againſt the commonly received Opinion.

As to that qualification of Heat, that it is *preternatural*: It may be obvious to any that ſeriouſly perpend the matter, that no Heat is *preternatural*. thô its cauſe may be ſaid to be ſo: For Heat is nothing elſe but a *natural* and *genuine* Paſſion, imprinted in the ſenſe by the preſence and *energy* of a *calorifique* Efficient: Neither can it be any more ſaid to be againſt Nature, then pain can be: It being moſt natural for pain to be raiſed upon the action of a *dolorifique* Efficient: And ſo furth, neceſſarly and naturally all the reſt of the Paſſions are made by *impreſſions* of the object *impreſſing*, in the ſubject receiving. But that the *ſpeculation* of Heat muſt be more ſubtile, then to be inlightned by the common and dark explications thereof, may appear from that common *Phænomenon* of the breath, which being leiſurely blown out, imprints upon the hand a ſenſe of Heat when this ſame breath with force blown out, gives a ſenſe of coldneſs thereon: this *diverſification* inſinuates the Impreſſion of Heat to conſiſt in a *modification* of the motion of the Particles,

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perhaps in a thwart, *transverse*, and tottering motion, some thing resembling *Refraction*, or *Reflection*; And that cold on the other hand is Imprinted by a direct motion: from which a true *Idea* of Heat subservient to the true explication of *Fevers*, may be perhaps clearly drawn afterwards.

Willis his Opinion of effervescence in *Fevers.*

Nixt follows the *opinion* of *Willis*, who reasonably rejecting that of the Ancients, placed his in a notable *effervescence* of the *blood & humours*: This *ingenious Philosophical Physician* doth with great fervor bend both his own Brain and the Subject, to establish a certain *effervescence* in the blood of the *Feverish persons*, proportionable to the *Fermentation* of Liquors: He nowayes taking notice that all the Circumstances and Conditions requisite to the *fermentation* of Liquors, are not only wanting in the generation of *Fevers*, but the contrary are present free *eventilation*, and rest of Liquors to be *fermented*, being necessary conditions: But in the blood the *eventilation* stopped, frequently is the cause and condition of *Fevers*: And furder, the *circuit motion* of the blood will hinder its *fermentation*; as it falls out in Liquors which are to be *fermented* requiring rest: Neither did any ever

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ſee in the Blood of Perſons in *Fevers*, any ſignes of *fermentation*, but rather tokens of viſcoſity and groſneſs; Signifying *coagulation:* Neither can the *Phænomena* in *Fevers*, be ſo commodiouſly explained from that *Efferveſcenee*, as from the contrary *Coaleſcence*; of which afterward.

Carteſius his Opinion. There is another Opinion of *Carteſius* affirming a *Fever* to be the *Perturbate mixture* of the Blood, which deſcription does rather darken the ſubject, unleſs he ſhould teach us in what the *Natural mixture* did conſiſt; And how the *Perturbation* thereof ſhould excite a *Fever*, and the manner of the dependence of the *Phænomena* upon that *Perturbation*; And ſeeing he ſeems to inſinuat a determinate *Order* and *Poſition*, to be naturally requiſite to the Particles of the Blood, and the *Diſturbance* of theſe to make a *Fever*; It is very difficult to underſtand, how the Particles of the Blood ſhould be carried from the Heart ſo rapidly throw the *ſmal branches* of the *Artry*^e*s*, and keep that *Order*; or how they ſhould again make up their ranks in their reflux throw the Veins back again to the Heart.

Paracelſus and Helmont As for the Opinion of *Paracelſus* making a *Fever* to be the

 accenſion

their Opinions.

accenſion of *Sulphur* and *Niter* or an *Univerſal Excandeſcence* of the *Balſom* and *Mercury of life*; and that of *Helmont* making it an Imparity of one part of the *Archeus* that thereby is affected with *Wrath* and *Indignation*; Becauſe they ſeem altogether *enigmatical* & vain, & bring more obſcurity then light to this dark Subject, therefore we leave them both.

Next follows the Opinion of that *Hero* in *Medicine*, *Sylvius*, who has placed the *Pathognomick* ſigne of a *Fever* in the Pulſe preternaturaly frequent, having conjoyned therewith Trouble, Pain, or the blemiſh of any function requiſite for the felicity and eaſe of Life: The cauſe whereof, which makes to him the *Eſſence* of *Fevers*, is either *firſt* a too great and Permanent *Rarefaction* of the Blood made by a violent Heat breaking out of the *Effervescence* of the Blood? Or *ſecondly*, any *Acrimonius*, *Acide*, *Lixivial*, or *Muriatique* ſalt carried thorow the Veins, together with the Blood and gnawing the *Parenchyma* of the Heart: or *thirdly*, any *flatulent halitous* Matter brought with the Blood to the Heart, and augmenting the *expanſion* thereof: *Fourthly*, any ſharp or hard thing in the *Pericardium*, or other wayes externally grating upon the Heart.

This Great Man to whom *Medicine* this day is much indebted, as being the first that clearly discovered the *Errors* and *Diluſions* of the Schools, has also found out a more efficacious and ſure practice in many Diſeaſes: Yet he (there being none able for all things) has fallen into ſome Errors of *Theory*, about his *triumvirat* Humor, and the *effervescence* of theſe Humors in the *Inteſtines* and *Heart*; and about the motion of the *Bile* towards the Heart: All which ſubſequent and more acurate *anatomical Inſpection* having found to be otherwayes; his *Hypotheſis* of *Fevers* being eſtabliſhed upon theſe, muſt neceſſarly fall: Yet theſe that reject this his *Theory* do imbrace his Practice in the *Cure of Fevers*

In the laſt place, follows the Opinion of *Barbet*, placing a *Fever* in the *circulation* of the Blood increaſed; which Opinion ſince it ſeems directly contrary to what we think moſt probable, with the confirmation then thereof, it will neceſſarly of it ſelf evaniſh.

SECT.

SECT. *VII.*

Containing a New and Mechanical Hypotheſis *of the Eſſence of* Fevers, *with the cauſe efficient and occaſional of the frequency of the* Pulſe, *and that matterial or occaſional cauſe alſo farther Mechanically traced.*

The occaſion of theſe Errores diſcovered.

IT ſeems very probable, that all the *Phyſicians* holding the former *Opinions* have Erred, and the Fountain of all their miſtakes appears to be that *fundamental error*, as the acurate *Bontikoe* obſerves, that they took the *immediate efficient cauſe* of the motion of the heart to be the blood, and that the frequent motion thereof and the Arteries, did alwayes depend upon ſome alteration of that blood; but that this muſt be otherwayes ſeems plain, becauſe the Heart of ſome *Animals* being cut out when they are alive, and holden in the hand, will beat a long time without a drop of Blood: So the motion of the Heart ſeems not to depend on the Blood, but on ſome other cauſe, perhaps on the influx of the *animal Spirits*, proceeding from the Brain, by the remainder whereof

whereof inviſcate in the Heart, the motion ſeems to be continued after the ſeparation thereof from the Body.

The next *fundamental Error*, and obſerved likewayes by the ſame *Author*, ſeems to be, that they eſteemed the *intenſion* of Heat alwayes to depend on the rapide *efflux* or *circulation* of the Blood; and that it was both a *ſign* and *effect* thereof: The contracy of which appears by an *Inflamation* or *Tumour*, where the Member affected is vexed with a great Heat, and kind of *Fever*, which is ott times communicate to the whole Body, and here it is clear, that the Blood is rather *ſtagnant* then ſwiftly moved, and the *Fever* that is communicate from the *Inflamation*, certainly ſhewing a near *reſemblance* betwixt them, perſwades that a certain degree of *Incraſſation* from this Fountain of *Co-agulation*: And accompanied alſo with a frequent *Pulſe*, does affect the Blood, as the Ignorance then of the concurring occaſional cauſe of that *frequency* of the *Pulſe*, gave riſe to all the *Errors* about this ſubject, ſo the bringing to Light the true cauſe thereof, will make all theſe *Errors* evaniſh.

For clearing then of this, it is to be conſidered, that the Body The Scheme of the New

hypolfices of *Fevers* laid down.

of Man being a curious *Machine* the motion wherewith it is endued, like other *Machines* as it has an efficient cauſe, ſo it has a final cauſe thereof; And in reſpect the final cauſe is alwayes the reaſon of placing the efficient cauſe, and that the *Idea* thereof is ſtill in the mind of the *Architeck* before the *Idea* of the efficient; This makes the *Idea* of the efficient to be alwayes ſhaped ſubſervient to the *Idea* of the final Cauſe; And muſt alſo make the ſtructure of the efficient in the *Fabrick* of the *machine* to be moulded to that final Cauſe likewiſe, & inſtructed & qualified Suitable to attain the end of the motion, that is to ſay, that it may have a faculty of *Intenſion* and *Remiſſion* to be regulate and moderate according to the exigence and neceſſity of the final, to be productive of the end of its being put there; At leaſt in ſo far as the Contrivance of a *Mechaniſm* will go: As in a Watch whoſe *Spring* is ſo contrived that it may be Bended or Slackned for attaining the end of its motion. And it ſeems alſo probable that in every motion in Nature, its only the *end* that both puts the *Efficient*, and ſets it a going; and therefore it muſt be ſtill by that end that the motion muſt be regulate, Hightned or diminiſhed:

As

As it is ſeen when *Mariners* do exerciſe the *Pump* of the *Ship*, its alwayes with reſpect to the breaking in of *Water* at the *Leaks*; Which being in great quantity does excite to frequent and vigorous Pumping to ſave the *Ship*.

Much after the ſame manner it ſeemes probable that this *motion* of the *Heart* which is nothing but a *Pump* deſigned to lay in the alimentitious Juice, and ſo has for its end a proportionable proportional reparation of the functions and parts ſuitable to their *Conſumptſion* and *Waſte*; And that by the ſending to them throw the *Channels* of the *Arteries* the arterial Blood, which is to be diſperſed in ſuch quantity and time, as may anſwer to the reparation of their *Conſumptſion* and *Waſte*; The Body conſiſting, which ſeemes to deny it all conſiſtance, in a continual *Flux*, and ſucceſſion of new parts coming in place of the old that are waſted, like a *River* which has nothing *Identitious* but the *Channel*: And ſo this final cauſe would ſeem to require an efficient whither that be the *firſt Impellent*, the *Archeus* or *Spirits* indued with a capacity and aptitude not only to continue, but alſo to incite and quicken this motion according to the exigence of the final, as when the Intervention

tervention of any *ſtops* or *Impediments* of the motions of the Blood does Interveen, to overcome which its neceſſarie that the *efficient* of the motion be *bended* to Superate theſe *ſtops* and gain tis *end*, then it muſt neceſſarly double its Force and Stroaks? Otherwayes every light Impediment or Obſtacle which were equivalent to, and of *equal moment*, and Force with, the moderate and odinare career of the motion of the Blood would put a *ſtop* thereto: And indeed there is in a *River* ſomething of a reſemblance of this faculty, thô from an other kind of *efficient*, yet for the ſame or the like end; For any Impediments put to barr or dam up a *River* are ſoon *overpoiſed* by the ſwelling Force of the *Water* above them, till in proportion it overcome the ſtrength of the ſtop: Now if it were otherwiſe, every Impediment equivalent only to the preſent current of the *River*, either put by *Accident*, or *Deſigne* would interrupt their courſe, to the great hurt of Mankind, and the blemiſh of the Worlds fabrick.

Seing then the returnes of *Reparation* to the parts and *functions* ought to be made, both in time and quantity in proportion to the waſte, by the efflux of the Arterial Blood from the Heart as the *vehicle*, and thorow

thorow the *arterys*, as the *conduites* of theſe recruites; When this is done *vegetlie*, *integrally*, without any ſtop or delay, then redounds *felicity*, *eaſe*, and *integrity*, of the *functions* and *life*: But when that *efflux* is retarded or ſtopt, either by reaſon of the Blood it ſelf, or ſome ſtopage in the extremities and ſmall channels of the veſſels; or by reaſon of immoderate and unuſual waſte beyond the proportion of the ordinary ſupply, (as falls out in immoderate exerciſe and motion;) And, ſo I ſay, when by reaſon of any of theſe cauſes, the heart cannot convey and lay in the deſired ſuppliment in due proportion and timeouſly, by ſtroaks repeated at the uſual intervals, then it does, by precipitating the ſtroaks, and ſtraiting the intervals of the *pulſations*, endeavour, what in it lyes, to overcome the ſlowneſs of the motion of the Blood, & to come ſo near as it can to the due and proportional diſtribution of *nutriment*, in reſpect of the waſte: But if, notwithſtanding of theſe *ſedulous endeavours* of the heart by the redoubling of the *pulſations*, that ſlowneſs of the Blood, ſhall by a gradual encreaſe of the thickneſs, and of obſtructions in the *capillary veſſels*, prove yet ſo obſtinate as ſtill to be augmented, then this

this leads ſtraight to the porch and gate of Death; Death being nothing elſe but a total and permanent ceſſation, and defect of this diſtribution.

An objection againſt this *Hypotheſis* anſwered.

If there remain yet any difficulty to comprehend this *Scheme*, becauſe this incitation of the *pulſe*, being only a natural action, and proper to the *Animal part*, thus circumſtantiate, is made too like an effect of Reaſon, and ſavours too much the acting for an end, or of a voluntary motion, to be applicable here: To anſwer this reaſonable doubt, ſince it is very plain that *Nature* in the *ſtructure* of the outward parts of *Animals* has acted ſo much Reaſon and Deſign, as importing clearly that the *Idea* of their end has regulate their *fabrick*; has alſo made the ſtructure of all their parts terminate into ſuch a perfection of the *Animal*, that the moſt rigide ſurvey can find nothing wanting: As is moſt ingeniouſly diſplayed by the Honourable and Learned *Boyle*, in his Treatiſe of the *Final Cauſes of natural things*: Why ſhould not the ſame *Architect* alſo have inſtructed the *Function* and *inward parts* with *faculties* to be exerted leſs or more, according to the particular exigence of the *Animal*: But eſpecially

eſpecially that *radical* and *fundamental* one of ſupplying all the reſt with ſufficient proviſion and nouriſhment; that it ſhould be endued with a *faculty* to accelerate, when the nouriſhment either by its fault or immoderate waſte, is more then it ought, in its Returns, delayed: Otherwaves every light cauſe that did retard the *acceſſion* of *reparation* or did waſte it much beyond the *ordinary recruite*; would ſoon precipitate the *Animal* into inevitable ruine.

And alſo, ſeing moſt *Animals* are endued with ſwifnels beyond their ordinary pace, whereby they flee dangers; why ſhould they not be endued with the like inward faculty, to eſcape dangers internal that frequently threaten them. And indeed all theſe efforts which we call from Irritation giving a Reſemblance of ſuch a faculty as this, argue as much reaſon and acting for an end as this, that's here laid down does; For the Impreſſion made in the place, being reſented in the Brain the Fountain of Senſe and motion; the Irritation or endeavour to be rid of the offending cauſe has its effects in the place firſt invaded or beſet: and why ſhould not the ſtarving of the parts as much *querelous* as the *ſurcharge* of them is, be as well heard, and have alſo its releif; ſo far at their leaſt, as motion can help them. And

And there is yet a clearer reſemblance of ſuch a natural Action as this to be ſeen in the *Pupil* of the Eye, which withont conſent of the will Contracts and delates it ſelf ſo much as is needful for the comodity of ſeeing, *viz.* Dilating where there is too little Light to let in more, and convey the *Species* into the Eye; and Contracting when there is too much Light, and letting in only ſo much Light, as is neceſſary to Paint the *Species* in the Eye.

And althô there is a *Phænomenon* and caſe in *Fevers* which ſeems to oppugne this *Hipotheſis*, yet it is hoped that the ſame being duely conſidered, will rather confirm and clear it and the Caſe is this, in ſome *Fevers* the Pulſe is not altered as to the frequency or Vigour yet theſe portend great & imminent danger: which *Phænomenon* or ſlowneſs of the Pulſe comes from this, that althô the final Cauſe of its motion be here craving enough of the acceleration of the Pulſe for reparation in proportion to the waſte, yet it ſeems the efficient or Impellent of this motion or the firſt ſpring thereof that ſhould anſwer exactly the exegencies of the final; Is either ſtupified, attacqued, or befettered; and ſo there is no ſtrugle or eſſay to overcome

Another deficulty ſolved

the

the Impediments, and Supply proportionably the waſte: And as this caſe is of all *Fevers* the moſt dangerous, commonly giving the name of *malignant*, ſo it brings the œconomie, for the moſt part, ſoon to diſſolution.

To unfold yet further this *paradoxical Hypotheſis*, if any deſire to know upon what neareſt and immediate cauſe this *ſlowneſs* of the *motion* of the *arterial blood*, or delay of Reparation which excites the *pulſe* to *acceleration* does depend; unto this not impertinent inquiry that an appoſite anſwer may be made; it is to be adverted, that the *blood* is made up of innumerable little *globules* ſwiming in a *limpide* watery *ſerum:* As, being obſerved by *Lœwenhoek*, with help of the *microſcop*, is alſo delivered and deſcribed by him: and as its very probable that theſe *Globules* do naturally require to be of ſuch a *bulk*, *figure* and *number*, and the *ſeroſity* wherein theſe ſwim, doth alſo requite to be of ſuch tenuity and quantity, as may beſt facilitate the *motion* and courſe of the Blood throw the ſmall *channels* and *conduites* betwixt the *Arteries* & *veins:* In which paſſage for the moſt part it depoſitates its *nutritious parts*, or *particles*: So it is very probable that *ſlowneſs* of the *bloods motion*,

tion, to overcome which the heart excites frequent *pulſes*, doth for the moſt part proceed either from the *number* or *magnitude* of theſe *Globules* augmented, or ſome variation of their *ſpherical figure*, as their *ſcabriety*, and the like; Or further, thorow the *viſcidity* of the *ſerum* into which as a vehicle they ſwim, and are carried: And tho from any of theſe alone this *ſlowneſs of the blood* may clearly proceed, yet it is certain that the *ingemination* and *complication* of theſe cauſes, rendring the groſeneſs of the Blood more intenſe; may alſo render the *ſlowneſs* of its *motion* more contumacious.

To conclude then, as by this *ſcheme* here laid down, ſeemes indeed may be given pretty clearly, both a rational diſcovery, & a *Mechanical ſolution* of the nature & *phenomena of Fevers*; ſo it appears that former *explications* thereof, having raiſed ſo many *fumy effervеſcences*, and *turbid fermentations* concerning them, could never yet bring the matter to a *digeſted*, *pellucide*, and *defecat* concluſion but having clouded the eyes with the miſt of *airy phantaſmes*, ſtill left the mind *boiling* and *working* in the tumult of *commotion*, *doubt* and *difficulty*.

SECT.

SECT. VIII.

Shewing that the Heat in Fevers is the Effect of the ſlow Motion of the Blood: And how Heat is made, & may be conſiſtent with that ſlowneſs.

SInce by what is ſaid the rapid *Circulation* of the Blood in *Fevers* ſeems to be overturned; And that the rapid motion thereof was the only *adequate Reaſon* commonly given, to ſolve the *Phænomenon* of Heat in *Fevers*; Becauſe ſwift and violent motions uſed often times to produce Heat in Bodies: althô we perceive motion to produce Heat in no bodys; but where it is acompanied with *grating* and *grinding* of hard & ſolid parts on upon another; but never in fluids; and ſo we find the violent motion of the Body produces Heat therein by the attrition which the *Muſcules* make on themſelves, and the adjacent parts: Which alſo produces a thickneſs of the Blood, and in conſequence ſlackens its motion: It remains to inquire to what parent this off ſpring of *Intenſs* and *Feveriſh* Heat can be moſt properly legitimate: The inquiry into this *Phænomenon* may not only diſcover how Heat is made, but will perhaps alſo further eſtabliſh the

Hipotheſis

Hipotheſis of *Fevers* already laid down: For if we take a view, and find that all theſe things which as external cauſes bring Imoderate Heat, that the ſame do bring on a pace with them *thickneſs* and *craſsneſs* of the Blood; Which is neceſſarly followed with the ſlowneſs of its motion; And ſo to ſupply the parts with proportionable reparation ſuitable to the waſte that is made, the *Acceleration* is *ſtimulated*, and frequent pulſes are excited, in proportion to that thickneſs and ſlowneſs of the Blood: as it falls out in *vehement motions of Body* and *Minde*; Great and long heat of the *Sun*, and *fire*; the exceſſive abuſe of ſtrong Liquors, and in *perſpiration* impeded, *&c.*

In the *vehement motion* of the Body, beſide the above mentioned *grateing* of the *muſcles* upon one another, and upon the parts adjacent exciting heat, there is alſo ſuch a *waſte* of *ſpirits* and *particles* of the *Blood* and *humours* which in motion do exhale, that, to make proportionable ſupply and *refocillation* with the *arterial blood*, the heart is made to mend its pace; As alſo that *copious eruption* of *exhalations*, which ſometimes comes to the degree of *ſweat*, leaving the Blood, and Humors more groſs and thickned, muſt neceſſarily alſo increaſe the *ſlowneſs*

neſs of its *motion*, which therefore crave greater and repeated force to *ſqueeze* it forward into theſe narrow *Channels*: And ſo from all theſe circumſtances, in violent motion there is raiſed a *paroxiſme* as to Heat and Pulſe altogether reſembling a *Fever:* Which is much after the ſame manner alſo produced by all the reſt of external cauſes exciting Heat; but with this difference, that the Heat coming from the abuſe of *ſpirituous* Liquors (as apears by the Spirit of Wine, which being poured upon *Blood* doth immediately co-agulate the ſame) comes from their immediate incraſſating and co-agulating effect upon the *Blood*: Which *Incraſſation* has likewayes and for the ſame cauſe, that *ſtimulating* effect upon the Heart. And how ſtopt perſpiration produces Heat ſhall be in its due place ſhown.

Whence we may conclude, that all *Intenſe* Heat grivous to the Body, is the genuin effect of the groſneſs of the Blood; as it is clear by the *contemplation* of the Community of the *Cauſes*, and the Community of the *Phœnomena* Natural and Practical belonging to both, and ſhall afterward more fully be ſhown.

Having thus far premiſed, It remains to clear how this *Thickneſs* and *Groſſneſs* of the

Blood produces alſo *intenſe Heat:* And that the ſame Heat does not eſtabliſh, but rather evert both the *Effervеſſence* of the Blood and the ſwiftneſs of that motion thereof, by ſome called the *circulation*, and by others the *circuit* of the *Blood.*

In proſecution whereof, it is to be noticed, that in the natural ſtate of Health, the Heat is more ſtrong and veget, then in the valetudinary ſtate, where it is fretting and with trouble felt: For in the ſtate of Health the *Rayes* of Heat (now whither or not theſe be thickly compacted together *troops* of *Spirits* it ſeems not worth the while to contend) theſe *Rayes* (I ſay) do chearfully and pleaſantly glide with the *arterial Blood* throw the Channels of the Arteries, in a fluid, ſequacious and yeilding enough; and by paſſages open ſufficiently, toward all the *Bowels*, *Organs*, and *Habit* of the Body; for their *refoccilation*, in which for the moſt part they are conſumed: And ſo from the continual *efflux* of theſe *Rayes* chearfully accomplſhed, does reſult the *fælicity* and *eaſe* of Life, and integrity of the functions of the *OEconomy.*

But in the ſtate of ſicknels, and cheifly in the *heat* of *Fevers*, theſe *rayes* or Companies of *Spirits* flowing throw a *viſcuous* &

Craſſ

craſſ medium, ſuch as the arterial Blood then is, and alſo approaching the narrow Channels of the arteries partly obſtructed and partly beſet with *ſcabricity* by means of this *viſcous* Blood; theſe *rayes* (I ſay) muſt undoubtedly, in there paſſage throw that viſcid and unequal *Medium*, ſuffer *refraction*; And in their approach to the extremities of the arteries thus obſtructed or vitiated they muſt ſuffer *Reflection* or *Colliſion*: Such *modifications* then of the *rayes* of *heat* ſeeme likely to produce the ſame effect on the ſenſe, that the like *modifications* of the *rayes* of Light and of Sight do: It being known that the diverſity or inequality of the *medium* throw which theſe paſs, and by which they are *refracted*; Or the variety of the *ſuperficial textures* on which theſe inciding, are therefrom alſo *reflected*; doth occaſion *Impreſſions* on the organe of Sight, whereby the object is repreſented either ſome way *depraved* or greater, or more *multiplied*, then it would be repreſented without ſuch *refractions* or *reflections*: So it ſeems not very Improbable, that the *rayes* of *Heat* paſſing throw the *medium* of craſs unequal and not ſufficiently *Diaphanous Blood*, that they ſhould be ſeveral wayes *refracted*, and ſo coming to the *Organe* of feeling, that is, the *nerves*

diſperſed every where throw the Body, that therefore they ſhould imprint therein a greater ſenſe of *Heat* then uſual: Or otherwayes by *reflection*, which comes to the ſame purpoſe, as when theſe *rayes* are darted throw the *trunes* of the *Arteries*, & incid upon the ſmall Channels obſtructed either in whole or in part by this craſs Blood, they muſt neceſſarly, being reflected ſeveral ways *impinge* on the *Nervs* the ſentorie of *Heat*; and affect them with more *brisk twitches* then if they did glide ſmoothly along the *trunks*, and by open paſſages were diſperſed, and exhauſted in there deſigned ends.

And that the ſenſe of *intenſe heat* is made much after the ſame manner, ſeems clear by the *Inſtance* mentioned before, to witt when the *breath* is with a wide mouth ſlowly exhaled, it gives the ſenſe of *heat* upon the hand; Becauſe the Particles of the *breath* are not caried ſtreight and directly forward, but being diſperſed by an *Oblique tranſvorſe* and *recoilling* motion, they undergo a *Modification* much reſembling *refraction*; And coming ſo modified to the nerves of the hand, imprint thereon the ſenſe of *heat* when theſe very ſame Particles flowing out forcibly, give no ſenſe of Heat, but of Cold: The Particles being ſtraight and direct in their motion undergo no ſuch *modifications*.

SECT

SECT. *IX.*

Shewing that Fevers *being treaced up to their Fountain.* viz. *The outward cauſes, in that queſt this groſſneſs of the Blood and Humors preſents it ſelf. Where* inſenſible Perſpiration *is touched, and how much the ſame leſed contributes the generation of* Fevers. *And how indigeſtion of the* Stomach *is alſo acceſſory thereto, with a new* Hypotheſis *of digeſtion propoſed.*

TO comprehend more fully and clearly this dark ſubject of *Fevers*, its neceſſary to trace the ſame up to the very fountain and ſpring, according to the *Concatenation* of cauſes and effects, which termmate in that production called a *Fever*; And whoſe preſence is teſtified by all the various *Phænomena*, that as *Irradiations* & *beames* are darted theretrom : Now if in this *Inquiſition* we find all ſuch cauſes concurring and *concatenat* as produce that thickneſs and groſneſs of the Blood, and that theſe *Phænomena* can be nowayes ſo comodiouſly reſolved; As by there being made likwiſe depending on that groſneſs and the product thereof : and alſo that the *Practical Phænomena* of *Hurt-*

ers and *Helpers* have their immediate effect, in reſpect of this groſneſs or what depends alwayes thereon, the flowneſs of the Blood; then with a certainty litle below a *demonſtration*, we may conclude according to the alleadged *Hipotheſis.*

Here then the *Procatartick* and external cauſes, as firſt in operation deſerve the firſt conſideration; Such are errours about the *ſix things* commonly called not *Natural*, viz. *Air*, *Aliment*, *Motion* and *Reſt*, *Sleeping* and *Watching*, *Excretion* and *Retention*, and *Paſſions of the mind*: For the errours about ſome of theſe uſing to generate, and about others of them to retain and accumulate, *crudities* Peice-meal which ſerve for the *antecedent* or *potential* cauſe of a diſeaſe; and this *antecedent* cauſe gradually by its own tendency, and ſometimes more quickly by ſome great error ſuperveining favoring this or that diſeaſe; Is acuate and formed into the *continent cauſe* or very *eſſence* of the diſeaſe it ſelf.

Inſenſible Perſpiration.

And even as the life of Man thorow Infirmitie and Misfortune is incumbred and involved in manifold ſtraits difficulties, and ſometimes neceſſities, whereby he muſt tranſgreſs the meaſure and bounds and

and run into the exceſs or defects, of the uſe of theſe *things*; Which would ſurely make his life both very miſerable, and without any comfort; but that it would likewiſe be very ſhort: Were it not that the bountiful *architect*, giveing as well an evidence of *Providence* and *Art* as of *Commiſeration*, and tenderneſs has contrived theſe *bodies* exceedingly commodious in the multiplicity and convenient ſituation of *excretory* paſſages, by which the noxious matter accumulate being expelled, the errours hapening about theſe none *natural things* might be amended; and that not only throw the Gutts and Bladder, theſe ſenſible and patent wayes, (ſerving alſo ſometimes for extraordinary turns as well as for their ordinary and natural Excretions;) but by another indeed moſt oculr, and obſcure; yet no leſs certain and obvious to the mind and reaſon, and more adequat and oftner ſerving, to theſe extraordinary, thô neceſſary Excretions: And that is *inſenſible Perſpiration*, which ſends forth continually throw the Pores of the whole Skin ſuch a quantity of *excrementitious Rayes*, as does twiſe exceed all other ſenſible Evacuations; and is the Excrements of the third and laſt *Concoction*.

And indeed ſuch a wonderful work of Na-

ture ſhould by lurking always not have had as much *certainty* & *evidence* as it demonſtrats *Sagacity* and *providence*; and ſo the Ignorance of Men ſhould have intercepted, & ſmothered their *admiration* and *gratitude*; if themoſt ingenius *Sanctorious a Sanctorio Phyſician* & *Profeſſor* of *Padua*, by *divine Influence* had not aboveall exception demonſtrat to the world the reality, neceſſity, and meaſure, together with Rules for the regulation, of this *Perſpiration inſenſible*: After whom for Fourty Years almoſt now ſince elapſed, Mortals have ſo much forgot themſelves, that they have not only neglected (in ſo far as I know) to improve this Doctrine delivered by him (perhaps tending more to the conſervation and alſo to the recovety of *Health*, then all other means whatſomever *preſervative* or *curative*) but alſo to receive or make any Benefit or Fruit of his Induſtry and Diſcovery: Except what the moſt acute *Bellinus Phyſician* and *Profeſſor* of *Piſa*, and *Ettmullerus Profeſſor* in *Lypſick*, have obſerved of it. And indeed that moſt acurate and piercing wit *Sanctorious*, delivers all his Obſervations approven to the eye by the *Ballance*; for having weighed the Body and all the aliment taken, in 24 Hours time, the next Morning, he again weighes the Body

Body before the *Excretiones* ſenſible of Belly and Bladder, and after the evacuations does the ſame again, and the difference betwixt theſe two laſt weights goes to make the weight of the Excrements, which is much within the weight of the aliement taken in, the weight of the Body remaining the ſame it was the former day: As for example, Suppoſe the weight of the whole aliment be 8 pound, the next morning the Body being weighed before and after evacuation of the Belly and Urine, the difference making the weight of the Excrements may be about 3 pound: The reſt of the 8, being 5, evaportating by inſenſible Perſpiration: Bnt in this computation ſome conſideration is to be had to the Urine *excerned* the former day, which in ſober People is little, & for the moſt part the *recre ment* of the Liquors taken in the third day before, & as that moſt exact obſerver by thirty years Experience found the buſineſs ſo or ſo to hold in the ſtate and continuation of health; it was likewiſe very obvious unto him, & may be ſo too unto any conſidering perſon ſeriouſly pondering the mater that this *ſubtile, inſenſible*, & becauſe little noticed often times *vitiated evacuation*, when

altho but in part, any long time leſed, that it muſt, heaping up copious *morbifique matter*, ſow the ſeeds and become the fewel of manifold Diſeaſes; which any ſlender and *diſpoſitive cauſe* may ſoon precipitate into the *continent* and *immediate cauſe* of a *Diſeaſe*: Therefore that *ſagacious Man* obſerves from *ſtatical Experience*, that the foreſeeing of the approach of *Diſeaſes* is more certain and timeous, by the obſervation of the *perſpiration*, then from the *Leſions*, of the *Actions*.

The due expulſion of this perſpirable matter depends upon the integrity of all the *concurring cauſes* thereof, whither *efficient*, *material*, or *inſtrumental*: And as an *efficient* here (beſide the *firſt impellent* the common *efficient* of all the motions of the Body) the Air by its *elaſticity* and *expanſive* power ſeems to have no ſmall influence thereupon, for the Air being in the act of inſpiration drawen into the *lungs*, and the *veſicles* thereof filled thereby, by the *Heat* of the *lungs* it is alſo *rarefied*, and thereby requiring a greater room, does alſo by its force diſtend theſe *veſicles*; whoſe ſtructure being with a narrow entry and large cavity, the Air therein contained and in expiration compreſſed, is not all in pro-

proportion to that compreſſion expelled at the *orifice* of the *veſicle*; but ſome thereof muſt be forc'd alſo into the ſmal branches of the *pulmonick veſſels*; & be mixed with the *Blood* in the *pulmonick vein* returning to the heart; and this air being once gotten into the capillar Veins of theſe *pulmonick Veſſels* by the continual *expanſion* and *contraction* of the *Lungs* throw which theſe *Veſſels* are interſperſed; that air is preſſed and driven on with the Blood towards the greater trunks of that Vein: For the motion therein being made from a leſſer cavity unto a greater; is by that ſtructure of the Organ more eaſie; and the Bloods advance facilitated and its regreſs hindered: So that by the motion of the *Lungs* alone, and without any Pulſes; it is not only thus carried to the left ventricle of the Heart; but receives its whole complement and perfection in the progreſs, by the continual agitation of the *Lungs*, which do *attenuat* and *grind* and moſt *intimately commix* it with the air, as appears by the Blood in that *Pulmonick Vein*, which has its colour more *florid* and is it ſelf more *ſpumoſe*, and *rarified* then before its ingreſs in the *Lungs*, and that alone by the Airs *congreſs* and *agitation* therewith. And further, the mixture of the Air with the

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arterial Blood is clear, by that Experiment of *Mayow*, *Page* 144, who putting *venal* Blood into the *pneumatick engine*, and pumping of the Air therefrom found it made only a ſmall *ebulition:* But having uſed *arterial blood* ſo, it made a wonderful *expanſion* and *boiled* up into a great deal of *ſpumoſity*, and that by reaſon of the great Quantity of Air contained therein, which *expanding* upon the weakning the preſſure of the *ambient Air*, does dilate it ſelf, and the Blood in which it is *inviſcate* in proportion to the preſſure of the *Air* that remained after the Pumping. And further the ingreſs of the Air into, and mixture thereof with the blood, is clear by this *phænomenon*, that the *ſuperfice* and *extremities* of the body, become *tumified* when the body is heated by *motion*; for then there are ordinarly more frequent and greater *inſpirations* of *Air* into the *Lungs*, which the violent motion of the Body diſperſes thorow the ſeveral Members. As alſo, the ſame is made further evident, becauſe the *Hypotheſis* gives only the clear ſolution how the skine riſes upon the application of *cuping glaſſes*, for the Air within the Body finding the Air within the Glaſs, not of equal reſiſtance, doth by its *elaſticity* expand it ſelf and raiſe the fleſh there.

therewith. And moreover the Airs influence and activity for promoving of *perſpiration* as an *efficient*, is plain, by the above-mentioned *experiment* of *Mayow*, for the *arterial blood* appears turgid with ſuch *arerious particles*, becauſe theſe by their *volatility* ſerve to ſweep off the *perſpirable matter*: And further, that ſame blood exhauſted and ſtripp't off theſe *aerious particles*, is by the Veins carried back to the *Lungs*, to be of new *impregnate* therewith. And likewiſe, the Neceſſity and Utility of the Aires *ſweeping* and *ſifting* thorow the Body, by its entry at the Lungs and going throw the *Arteries*, and out again at the *pores* diſperſe devery where throw the *ſuperfice* of the Body; appears from this as *Helmont* obſerves *tractat de blas hum* that *heat* alone is not ſufficient to expel all theſe *rerements* that are in the Blood and Body; For *Heat* in its operation, as in *deſtellation* leaves alwayes a great *remander* or *caput mortuum:* Yea, as Boil obſerves in the *origin* of *formes* the moſt *limpide rain water* being a hundred times rediſtilled leaves alwayes ſome *Earthy* and *fixed recrements*, that can be altered by no vehemency of fire, ſo that to *eliminate* and expell this *perſpirable matter*, without *recrements*; beſide the action of heat

heat, there is further required ſome other *proper volatiliſing efficient*, which the *Air* may be clearly judged to be : For as *Helmont* and *Tachenius* obſerves, timber putrifying in the free *Air* gives by *calcining* little or no *fixed Salt*: And dry Herbs give far leſs quantity thereof, then green Herbes do; For this reaſon, that the *Air* being the *proper menſtruum* of that *Salt* ; Yea even of the ſame *Salt* within our Body does diſſolve & extract it. And likewiſe the influence that *pure Air* has upon our Bodies, and which is obſerved by *Helmont*, muſt be alſo from this reaſon; For in *ſerene* and cold *Air* we eat and digeſt better Becauſe that *Air* not being Saturat with *fuliginous* and *noxious* Particles; In running its courſe throw the Body, ſweeps out powerfully the *perſpirable matter*, and for the like reaſon theſe that Sail long on the Sea, eat very much and have fewer *ſenſible excrements* then otherwayes: Becauſe the continual and ſwift motion of the Body not only promoves *digeſtion* and *diſtribution* of the aliement (as will be ſhown afterward) but alſo promoves *perſpiration*, by the continual *agitation* and *ſhaking* of the Body ; Which looſes any of the Particles of the *perſpirable matter* that incline to ſtick in the *paſſages* and *pores*, and ſo the *Air* more eaſily ſweeps off that

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perſpirable matter. And alſo, (as our *worthy Author Sydenham* obſerves) long riding has the ſame effect and it may be thought for the ſame reaſon, and the effects of both theſe motions, are likewiſe obſerved by *Sanctorius*, in his *Aphoriſmes*, *Sect* 7. where he ſhews that ryding reſpects moſt the *expulſion* of the *perſpirable matter* above the *Loynes*: And that *ambling* is moſt wholſome, but *trotting* unwholſome: and that the being long carried in *a Boat* or in *a Litter* is alſo moſt wholſome as diſpoſing to *perſpiration.*

It follows next to be ſhown that the due *expulſion* of this *perſpirable matter* ſeems further to depend upon the *integrity* of the *inſtrumental*, *matterial* and *neareſt cauſes* thereof, ſuch as, The ſtrength and firmneſs of the *Fibers* and *Glands* of the skine, The convenient *aperture* of theſe *paſſages* and *pores* thorow which it muſt go. And laſtly, the ſufficient *tenuity* and *ſequacity* of that *perſpirable matter.* But what things help or hurt here, will be too great a Digreſſion to mention, ſeeing the Author *Sanctorius* may be conſulted concerning it himſelf; and becauſe that very uſeful Treatiſe is ſcarce to be had; we have therefore placed down after all, a *ſelect parcel* of his *Statical Aphoriſms:* It remains then only now to ſhew, that

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one or more of theſe requiſites to *perſpiration* being vitiated; that *perſpirable Matter* may be retained and accumulate about the borders of the *capillary* veſſels; until by its burden and bulk it provok the *Fibers* to its *expulſion* by ſweat, all ſweat eſpecially giving eaſe coming from a great and undue collection of *perſpirable Matter*, ſeems therefore never to be a Natural Excretion, or to have place or uſe in perfect Health, and is only profitable in ſo far as it ſhuns a greater evil, and carries the ſame reſpect to the *Excrements* of the third *concoction*, that a *Flux* of the Belly does to theſe of the firſt or ſecond; and thoſe that ſweat moſt, perſpire leaſt in the Natural order & manner, as *Sanctorius* ſhews *Aphoriſ. Sect.* 1. That *Sweating* is not good, becauſe it abates the ſtrength of the *Fibers*, yet ſeing it diverts a worſe evil, it may be called reſpectively good.

But if *Nature*, either out of Sluggiſhneſs or Weakneſs, do not provide againſt the retention of this *perſpirable Matter* by *Sweat* or ſome otherwayes, it being ſtill farther accumulate threatens a Diſeaſe, and very often a *Fever*, after this manner; for this *perſpirable Matter* retained, being wholly *excrementitious* and unapt to be indued with Spirits

Spirits degenerates into *viſcoſity*, and it may be into *Purulency*: and lying into the confines of the *Veines*, among the fibres of the Fleſh, which being irritated by its bulk and uſeleſſneſs, do wring it out into the *Channells* of theſe *Veines*: And ſo being eaſily abſorbed by the refluent Blood, it infects by its *viſcidity* and *Purulency* the *Particles* and *globuls* of the Blood; Increaſſing there *bigneſs* and vitiating there *Spherical* figure: Which Blood thus vitiat, being carried back to the Heart by the *Veines*, and from it into the *Arteries* to be diſperſed throw the whole Body, is with much difficulty admitted into the ſmall *capillary veſſels*, by reaſon of the diſproportion of theſe *globuls* unto the conduites, or their *ſcabricity*, making their paſſage difficult: ſo that the heart is forced to double its pulſes to drive on the Blood, to ſupply the craving parts with their due nouriſhment. And albeit oftentimes the heart doth by this aſſiduous labour overcome theſe obſtructions, (for the *vigorous agitation* of the Blood, and of theſe *globuls* upon an another, doth ſo attenuate and poliſh them, that they are made to paſs without ſticking, and ſo many thereof as are not redintegrable, as *perſpirable matter* are expelled:) Yet ſometimes theſe obſtructions by their obſtinacy

from the copious Retention and the continual Acceſſion of *perſpirable Matter*, may not only elude theſe ſtrenuous endeavours of the Heart, but alſo be ſo encreaſed, that, ſterving all the Functions, they may overwhelm the *Oeconomie*, and put a total and permanent ſtop to the motion of the Blood; which really and formally makes extinction of Life.

Now that the Progreſs and Pedigree of a *Fever* may be after this manner, is much more probable, becauſe it is very conſonant to the Sentiment of *Sanctorius*, who in the firſt *Section* of his *Aphoriſms*, declares, That, *the perſpirable Matter retained, neither being diſcuſſed by Nature nor by a* Fever *ſuperveening, preſently diſpoſes the Body to a* Malignant Fever : By the which may be underſtood a *Fever* of the *higheſt degree*; that depends upon contumacious Obſtructions, and is extraordinary dangerous: And in the next *Aphoriſme*, he ſayes, *Such as are in* Fevers *grow worſe and worſe if their* perſpiration *be diverted by exceſſive applications of* Medicines *from an* unskilful Phyſician.

And ſo ſeems to be acted the firſt *ſcene* of a *fever*, which ſeldom proves *tragical*, unleſs by a *prepoſterous officiouſneſs*: For by the ſtrength of Nature alone, or by ſome little Art, *viz.*

viz. By *Sweating*, *Bleeding*, and other eaſie means, it is for the moſt part brought to an happy concluſion.

Unleſs, which very oft falls out, a *Maſs* of *crude Matter* generated from the Errors in the other Non-natural things, and lodged in the firſt wayes, as the *Ventricle*, *Inteſtines*, *Meſeraick Veins*, becoming (as it is very apt to do) a *fewel* to this Diſeaſe make it both long and dangerous: Now this *Crude Matter* ſeems to be nothing elſe but the *Recrements* of the imperfect & perfunctorious *Digeſtion* of the Stomack and other Bowels: the ſearch therefore into the cauſe of ſuch *Recrements* amaſſed up, directly lead us in relation to the diſcovery, firſt to make inquiry how perfect and natural *Digeſtion* is made.

A mechanical *Hypotheſis of Digeſtion.*

Then paſſing over the commonly received *Fermentation* the Aliments in the Stomack, which ſeems juſtly to be rejected here for the ſame Reaſon that *Effervеſcence* is repudiat in *Fevers*, this operation not only ſucceeding always without *Eventilation* or *Reſt*, the requiſites to *Fermentation*, but altogether refuſing them: And ſo this action of the Stomack ſeeming much more intelligible to be made Mechanical, does rather

conſiſt in a *grinding* or *attenuation* of the Aliments, by which they are made *chyle*, for the requiſites to compleatly expede *Digeſtion* are firſt the *contraction* of the *Ventricle*, and cloſs embracing of the contained Aliment: and next the gentle and continual compreſſive *rowling* of the Aliment already cloſs embraced by the *Stomack*; and that by the continual motion of the *Diaphragma* depreſſing it, and the motion of the *abdomen* again repreſſing it: Which motions reciprocally coming and going upon the *Aliment* cloſe Imbraced in the *Stomach*, may be thought to have upon it the like *mellowing* effect that the rowling of the hand upon an Aple or other fruit alwayes has; and that by the continual *attrition* the *Particles* of the *Aliment* have upon one another, they are mellowed into Chyle. And further what may be the Joint effect of the *Stomacks* Imbracing and Contracting it ſelf cloſs upon the *Aliment* to promove this *atrition* of the *Particles*, will further appear, by the conſideration of the effect of *Monſieure Papines digeſter*, by which bones are ſoftned, with no other *artifice* but by the *veſſel ſo contrived*, that it Imbraces the contained matter with compreſſion upon all ſides; by which theſe *Stems* & *Vapors*, which

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in ordinary boiling breake out, being Impriſoned, do make their *Rambles* throw the whole contained matter, and give ſuch *twitches* thereon, that they do ſo far attenuate the Bones as to make *Jellie* of them.

Now beſide this *compreſſion* aud *rowling* of the Aliment contained in the Stomack by the *Diaphragma* and *abdomen* the chief Inſtruments to make the *Chyle*, the powring in of certain Liquors from the *Glands*, to macerate the Aliment, ſeems likewiſe to cooperate to the ſame purpoſe: As alſo the continual *influx* of *Spirits* by the great *Nerves* that comes to the Stomack, ſeems as well the promovers of that inteſtine motion bringing firſt *Attrition*, next *Concoction*, as they are Authors of other admirable actions in the Body done by their ſtupenduous *Elaſticity*, ſuch as the motion of the Muſcles. And beſide all theſe, there ſeems to contribute likewiſe to the *Concoction* of the Aliments, there being impregnat with *Aereous Particles*, while they are chewed in the mouth, theſe alſo ſerving to ſubtilize and rarifie them: And for this uſe the *Wind-bladder* in Fiſhes which is alwayes filled with air, has a Conduite to their *ventricle*, as is obſerved by *Needham*: And for this reaſon alſo it may be, that ſerene

and clear air does contribute exceedingly both to Appetite and Digeſtion: And the Meat thus impregnat with the air coming to the Stomack is the fitter to be acted upon, and volatized by the Spirits, which alſo are of an aereal nature, and the Spirits influence to *Concoction* is plain by this, that theſe that are affected with Intenſe Grief and Sadneſs, or indulge anxiety and thought fulneſs, by which the Spirits are diverted from the Office of *Chylification*, do not digeſt, but find a weight about their Stomack, and have likewiſe the other tokens of bad Digeſtion upon their Body, and alſo *Appoplectick* Perſons do eat and digeſt double the quantity of Aliment that they do when they are whole; which ſeems to be only for this reaſon becauſe the influx of the *animal Spirits*, being denyed throw the reſt of the Nerves, takes the courſe more liberally throw the *wandring pair and intercoſtal Nerves* going to the Stomack & Bowels (whoſe ſafety Nature ſtudies longeſt to mantain) ſo theſe places being moſt copiouſly imbued with Spirits, do perform their Actions more vegetly. All which is learnedly treated, with the reaſons for rejecting of *Fermentation* in *Digeſtion*, by *Conradus Brunuerus* in his *Diatriba de Lympha & uſu Pancreatis.*

Now

Now from this it would seem to follow that these *belchings* that happen in *bad digestion*, are as well the cause as the sign thereof: for the *stomack* sending up throw the *œsophage* these *Steemes* that with their *Careers* throw the Mass of the contained Aliment should attenuate & comminute it into *Chyle*, is a clear Argument of the laxity and infirmness of its *Tone*; And that it is not able to Imprison them, and by straite Imbracing the *Aliment* and them to keep them there, in *Invisoate* at there work: and this contraction of the *Stomack* to Imbrace the *Aliment* upon all sides is so necessary, that any vacuity how ever little betwixt the *Aliment* and the *Stomack*, is frequently the cause and occasion both of indigestion and of the sending up of these *eructations*: that vacuity being a receptacle for these *steemes* which finding themselves at liberty from the Imbraces of the *Aliment*, by their *volatility* & *expansiveness* distend the *Ventricle*, thus proving troublesome to it, they force their passage at the mouth thereof, and are voided by way of *belching* and *ructation*: And this is also observed by *Sanctorius* in his *Staticks* where he finds that less quantity of Aliment then the usual being taken in, does neither digest nor perspire, because the Stomack

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ſcarce contracting more then its ordintay is not ſo far *conſtricted* as to touch the Aliment on all ſides.

Moreover to confirm this *Hypotheſis* of the *Stomacks Digeſtion* by gentle *rowling* of the contained Aliment, the benefit that in moſt *chronick* Diſeaſes comes by long riding ſeems to be no ſmall adminicle: For theſe Diſeaſes for moſt part coming from *crudity* and the *recrements* of the *Indigeſtion*, which beget obſtruction, by this continual motion & jogging of the Body in riding, are not only removed, but actual Digeſtion is thereby extraordinarly promoved; and that by agitation of the contained Aliment making *Atrition* of the parts thereof upon one another: And what alterations *motion* and *agitation* alone is able to produce in liquids is ſeen in the *churning* of *Milk*, whereby *Butter* is made; and that without any *Fermentation* or *Efferveſcence.*

Having thus far digreſſed to eſſay how *Digeſtion* is made; it plainly follows that *Indigeſtion* leaving the *Particles* of the *Aliment* leſs comminuted, attenuat, and mellowed, reſolves in the *Congeſtion* of a *Maſs* of *crude Humors* lodged into the firſt wayes, and ready to be a Fewel to begin or increaſe any Diſeaſe, eſpecially a *Fever*;

For

For althô any part of this *crude Matter* being carried into the Blood, while it is under a Brisk & Vigorous *circuit*, *Efflux* and *Reflux*, for the most part is soon attenuated and subjugated, and by that sprightful motion eliminated by intensible *Perspiration*; Yet in the case when the Blood is acting the former *scene*, these gross *Particles* and *Viscous matter*, being carried into the *Mass of Blood*, do both augment the Number and grossness, and vitiat the figures of the *globuls* of the Blood, and so putting more obstructions in the small vessels, puts also more Contumacious barrs to the motion: and thus the *Lungs*, the *Forge*, and the *Heart* the *Pump* of the motion of the Blood making life, being beset on both sides, *viz.* By the *crudities* ascending by the *lacteal Vessels* on the on side, and by the perspirable matter retained on the other Hand both hindering by obstruction the effectual making and *distribution* of the *arterial Blood*; Comes all these *Phænomena* arguing the presence of a *Fever*; and for the most part one of the *highest degree* or *first rate*.

SECT.

SECT. X.

The Natural Phænomena *in* Fevers *made to confirm this* Hipotheſis, *ſuch as* Thriſt, Pains, Inquietudes, Anxieties, Delirium, *and* Spots.

AND that a *Fever* proceeds from *Obſtruction*, eſpecially in the *Capillary* Veſſels, may be eaſily conceived by any who were ever taken with a *Fever* themſelves, if it did not aſcend to that height to bring along with it Stupidity, for they cannot forget the continual and frequent Pulſations, wherewith they were then afflicted in the Head, Back, and all the Extremities; which certainly denoteth *Obſtructions*, and difficult paſſage of the Blood throw the ſmall *Veſſels* of theſe parts, upon which the Blood, endeavouring to open theſe cloſs doors, did continually batter and beat; when in the ſtate of Health no ſuch thing is felt; becaule the Blood enjoyes a free paſſage thorow theſe Channels clear and open.

But to confirm this *Hypotheſis* farther, it remains to ſhew how the moſt ordinary Natural *Phænomena* in *Fevers* may be made to agree therewith. And

And firſt as to *Thriſt* in *Fevers*, it ſeems not to be an effect of Heat, as is commonly believed; but is another Branch which ſprings from the ſame *Root* of *groſſneſs* of the Blood, and of Obſtruction depending thereon, that *Heat* it ſelf does likewayes come from: It is not therefore the *Heat* that dries the *Tongue*, *Jaws*, *Throat*, *OEſophage*, and *Ventricle*; but it is the defect of the watering theſe places with the *Lymph* and *Spittle*; becauſe the *Lymphal* and *Salival Glandes*, being in like manner affected with the ſame *Obſtruction* from the *craſneſs* of the *Humors*, either do not ſecerne their proper liquor from the Blood, or do not *excerne* and *ſqueeze* it out on theſe parts.

The *Phænomena* of *Paines* of all ſorts *inquietudes*, and anxieties, may alſo be reſolved in that ſame fountain of obſtructions; For the rayes of Heat, or Spirits not being able to run their courſe, and carreer; by reaſon of the groſs *Medium* and obſtructions; do therefore *reſile* and *recoile* on all hands, and by their *brisk twitches* on the *membranous* parts endued with exquiſite ſenſe, they raiſe *paines*, and uneaſineſs: and acting their *ſcenes* in every *organ* they do excite *Symptomes* Competent thereunto.

And

How delirium is made

And in the Brain *Delirium* or *Raving* ſeems to be raiſed much after the ſame manner, for it appears only to be the *Direct* and *Regular* motion of the *Spirits* by *Refraction* and *Colliſion* perverted, imprinting a *Troubled Chattered* and *Falſe* Imagination; Much after the ſame manner as there is a deception Imprinted in the *Fancie*, when an *Oare* appears broken, the one half thereof being only in the Water; And that becauſe of the *Refraction* or *Diſtortion* of the *viſible rayes* coming to the Eye: So then it is very probable the Spirits within the Brain, at the leaſt the *nervous juice* their *vehicle* or *medium*, being generate of that *craſs* and *unequal* Blood the parent of theſe *Refractions* and *Perverſions* acted in the Maſs of Blood, that thereof alſo may be generated ſuch *nervous* juice as will make the Spirits obnoxious likewayes, by *Refractions* and *Depravations* of their *motion*, to produce all theſe *Phænomena* competent to the *region* of the *Brain* & *Nerves*: And that by reaſon of the *Obſcurities* or *Inequalities* of their *medium*, that is the nervous juice, throw which theſe Spirits do paſs.

And that theſe *Deluſions* are raiſed much after this manner is farther clear, by pondering

dering that familiar *deception* of the *Touch*, which is made and exerciſed by croſſing the Formoſt finger with the Mid-finger of the ſame Hand above it; and with the points of the two fingers thus placed, if ye ſhall touch any little *Ball*, you will not only think, but ſwear it to be two, neither will you any wayes be delivered from this error but by the Eyes: The true reaſon of this deluſion ſeems to be from the *diſtortion* of the *nerves*, which neceſſarly induce a *depravation* of the *Impreſſions* made and conveighed by the *nerves* unto the Brain: And as this *diſtortion* in its manner & effect reſembles very much the *refraction* of the viſive rayes miſrepreſenting the object in the *Organe*, ſo it beſpeaks a *delirium* or depraved Imagination to come from ſome *refraction* of the *ſpirits* within the Brain

How *ſpots* are made

As concerning the eruption of *ſpots* in *Fevers*, there ſeems nothing more perſwaſive to confirm the *Hypotheſis*: For theſe altogether reſemble the markes made by ſtroaks on the Skine; And theſe markes are alſo made by the *ſtagnation & coagulation* of the Blood in the ſmall *Channells bruiſed* and *diſtorted*; which remain until new Blood ſuperveening, both cleanſe and repair theſe

Channels

Channels, and reſtore to the skine its uſual colour; which is ſoon done when the Maſs of Blood is *intire* and not infected with an *obſtructing Groſſneſs*: After the ſame manner theſe *Spots* in *Fevers* happen; but with this difference, that they come not from the *bruiſing* of the *Channels*; but from the thick and groſs Blood ſtoping and *coagulating* in theſe *Channels*; and *tinging* the Skine with *blewneſs* or *redneſs*: And in *Fevers* the difference betwixt *red* and *purple Spots* as to the cauſe is the ſame, that is betwixt theſe from an external cauſe: *Blew Spots* being from a greater ſtroak and *contuſion*, beget a more *intenſe Coagulation* of the *Blood*; and the *red* from a leſs, produce a leſſer *effect*; for every Light external cauſe is apt to make the Skin *red*; as the *bits* of the *Flea* often do: And ſo a leſſer *coagulation* in *Fevers* begets *red ſpots*, and a greater makes *purple Spots*.

SECT

SECT. XI.

That the Phænomena *of* Helpers *and* Hurters, *in* Fevers *confirm this* Hypotheſis: *And firſt how* Bleeding *a* Helper *confirmes the ſame*: *And ſeveral other* Phænomena *concerning* Bleeding, *cleared according to this* Hypotheſis.

THE nixt point both bringing light to the *Theorie* and fruit to the *Practiſe* of the Cure of *Fevers*, is the exact conſideration of the *Practical Phænomena*, the Helpers and Hurters in *Fevers*; And how they do the ſame.

And the firſt is *Bleeding*, which by the conſent of almoſt all is granted to be very beneficial; but if by this *Theory* is be cleared how it is ſo, it may perhaps have its effect further improven alſo thereby; Now its certain that for the moſt part *Bleeding* Cooles the Body, Calmes and ſlackens the Pulſe, and allays almoſt all violent *Symptomes*? In ſo much that being celeberate to one in the *Fury* and *Fever* of a *Drunkenneſs* it allays that alſo; But how it does this is to be inquired: Its certain that the immediat effect of *Blooding* is the Emptying or depletion

pletion of the vein that's cut, and the nixt effect to this muſt be that the *Blood* that's pouted forth of the *Vein* that's cut, not going back to the *Vena Cava* or great *Vein*, muſt be in conſequence a proportionable Depletion of that *Vein* alſo; Becauſe the uſual acceſſion of Blood from that Vein cut is intercepted; Now this Ebb made in that great Vein muſt certainly make the reſt of the Veins that feed it flow with greater Force and Quantity thereunto likewayes; Becauſe the *moment* of *Reſiſtence* in the great Vein thereby being leſs then it was, is alſo leſs then the *Preſſure* of the Veins feeding it, which muſt make them empty themſelves therein with greater freedom and force then they did before. And this in conſequence, diminiſhing the preſſure of the Blood in the whole Veins which lay againſt the *Arterial Blood*, muſt make the *arterial Blood* from all the Arteries go into all the Veines with more freedom alſo: When before the whole Veins being choak full, by the *reſiſtance* & *contranitence* of the *venal* againſt the *arterial Blood*, the *arteries* emptyed themſelves with dificulty into the *veins* & any *obſtructions* betwixt the *Arteries* & *Veines* could not eaſily yield to the *Preſſure* of the *Arterial Blood*; Becauſe the *Venal Blood* being throng, and *Regurgitating* its

its Reſiſtance was equivalent to the *Preſſure* of the *Arterial Blood*: And ſo little or no advance being made in the motion of the *Arterial Blood* toward the *Veins*, it could not ſweep and clear theſe paſſages betwixt them & the *Veins*: Not very unlike, as when *a Mill-Wheell* ſtands ſtill and has its motion ſtoped by back Water, there being an equivalent weight with that which ſhould force it about hinging on the other ſide of it; But when the back Water is removed off, or falls low, then the motion goes on as before: even ſo it is here that any ſudden *Depletion* of the *Veins*, as taking away the Reſiſtance, gives the *Arteries* freedom to ſquirt the *Arterial Blood* more freely into the *Veines*; And conſequently to ſweep away all *ſtopes* and *rubbiſh* in the way.

But it is to be obſerved here, that upon the opening of any *Vein*, this ſcouring of the Paſſages is moſt effectually perfotmed in theſe *conduits* that are betwixt the *Arteries* and that *Vein*: Theſe *Arteries* being firſt, and moſt ſenſible of the removeal of the *counter Ballance* that lay againſt them, catch the opportunity, by emptying themſelves precipitantly into that Vein, to ſweep powerfully the *interjacent Paſſages*.

From this may be offered a propoſal for

improvement of *Phlebotomy*, to wit, if it may not be thought the most effectual and most universal way to clear the Obstructions throw the whole Body, that in place of *Bleeding* in one Member the same were used at the *four Extremities:* And also in the same quantity which is used in one Bleeding; and that by opening the Vein in each Arm & in each Foot: For thus there being at once made *a depletion* of so many *Veins* containing a *counter Ballance* against the *Arteries* answering to them, the *Arterial Blood* would, by its quick springing into these *Veins*, powerfully scoure all these Passages betwixt them and these *Veins:* from which would follow a sudden, chearful, and universal *efflux* of the Blood from, and *Reflux* thereof back again to, the Heart; which motion was before slowly, partially, and superficially performed; for the *Arteries* not emptying themselves cleaverly enough into the *Veins*, there is little room made in them to receive the returning *Venal* Blood, so there follows almost a *stagnation* in both: Notwithstanding of the frequent and assiduous attempts of pulsation of the Heart.

A Proposal for improvment of *Phlebotomy.*

If

If we conſider further the other *Phœnomena* of *Phlebotomy*, we will alſo find that they concur both to the eſtabliſhment of this *Solution*, and of the principal *Hypotheſis*: As the benefit thereof in *Hæmorhagies*, which has been violently ſtrained by the *patrons* of *Effervescence*, and of the *rapide motion* of the *Blood* to favour their *Theories*, but being narrowly pondered, will appear both to evert theirs, and eſtabliſh this: For *Hemorhagies*, eſpecially theſe in *Fevers*, come moſt part from the *Arteries*, not becauſe the Blood then *circulates* more *rapidly*, for in that caſe meeting with no obſtruction, it would have no occaſion to burſt the *Veſſels*: But rather becauſe it is not received a pace into the *Veins* as it is ſent from the *Arteries*, breaking its bounds and bruſting its *Veſſels*, its poured out another way: And the proper Remedy of this being *Phlebotomy* doth clear this; becauſe it diminiſhes the *preſſure* of the *venal Blood* lying on the Borders of the *Arteries*, whereby they overcome and work off any obſtructions betwixt them & the *Veins*; and emptying themſelves eaſily therein, the Blood does no more deviat into thoſe Ruptures. But that this Remedy may be more ſpeedily effectual, it would

How *Blooding* helps in *hemorhagies*.

ſeem to require the opening of the *Vein* that directly anſwers to the *Artery* that is broken, as more immediately taking of the *contranitency* lying on it: At leaſt this would be done after the opening of one at more diſtance, which althô oftentimes at firſt is to be done, yet ſometimes it falls out to be done without effect, and then this immediate *Vein* ought to be opened.

And farther, an *Hemorhagy* from the *venal* Blood turgent, & bruſting the *Veſſels*, or from *Acrimony* contracted by its *Stagnancy*, corroding them, yielding likeways to this Remedy gives alſo the ſame Confirmation: For the *Stagnation* of Blood in great quantity in the *Veins*, does not only ſwell their Coats and weaken their *Tone*, (by which they *contract* to thruſt the Blood back to the Heart;) but may alſo ſo far ſtreach them, as to make a Rupture: And this is moſt effectually cured by *Phlebotomy*, for the *Veins* being emptied, the Coats *ſhrink* in, and the Rupture is cloſed: And farther the Blood upon that emptying, making its Circuit more quick to and from the Heart, is noways apt to deviar or ſecede again into theſe Ruptures. And here by the way may be obſerved, why an *Hemorhagy* from the *Veins*, is not ſo uſual as from the *Arteries*, &

if

if it fall out it is more eaſily ſtoped in them then the *Arteries*: the reaſon of which is both from the different Nature of the Blood contained in theſe Veſſels and the different ſtructure alſo of the Veſſels themſelves, in reſpect of the motion of the *blood* therein: For the *Arterial Blood* being more ſpirituous and volatile is eaſily evacuate at any chink: As alſo the Blood in the *Arteries*, making its progreſs from a wide place of the *Channel* unto a narrower, any obſtructing matter it meets with, is by its motion more impacted and rivetted into the narrower part of the *Channel*: Which occaſions the *Arterial* Blood to burſt its paſſage another way: Whereas the motion of the Blood in the *Veins* is from a narrower place of the *Channel* into a wider; ſo any obſtruction is eaſily carried before the Blood. As alſo it occurrs here to be obſerved, that for the ſelf ſame reaſon the *Arterial* Blood, thô it make no faſter advance from the Heart, then the *Venal* makes its return to it; and alſo althô it be more *ſpirituous* and *volatile* then the *Venal*; Yet it needs the help of Pulſation to carry it on which the *Venal* needs not: The reaſon of this ſeems to be the ſame different ſtructure of theſe Veſſels

Other Phœnomena of the motion of the *Blood* cleared.

Veſſels in reſpect of the Bloods motion in them: For the *Arterial Blood* making its progreſs, as is ſaid, always from a wider place of the *Arterie* unto a narrower, needs the force of the Pulſe to drive it foreward: But the *Venal* contrarywayes moving from a narrower place of the *Vein* into a broader, is ſerved with leſs force; the *contraction* of the Coats of the *Veſſels*, with the help of Reſpiration at every turn preſſing on the great *Veins* within the Trunk of the Body, and the Valves hindering its return, is ſufficient alone to carry it back to the *heart.*

There is moreover another Benefite to be remarked in *Phlebotomy*, beſide the ſimple depletion of the *Veins* and the former beneficial conſequence thereof, & that is this, if the *Veſſels* or the *Arteries* ſituated beyond the Orifice made in the *Vein*, do contain any *Labefacted*, *Rheumatick*, or *Purulent Blood*, ſuch is moſt part voided; the more opime and pure being retained: The reaſon of this *Phœnomenon* appears to be thus, when the *circuit* of the *Blood* is not throwly perfected, many of the *Globuls* or *Particles* thereof, ſtagnating become *torpid* and *purulent*, and ſuch for the moſt part are accumulat toward the inner

The reaſon why the worſt *Blood* is firſt evacuated.

inner *Superfice* of the *Trunk's* of the *Veſſells*, the more Opime Part being carried in the middle of the *Channel* toward the *Heart*: As is obſerved in a *River* or *Torrent* which alwayes drives *Heterogeneous* & *groſſer* Bodies toward the *Brink*: This ſeems the true ſtate and diſpoſition of the Blood in the *Veins*, when *Phlebotomie* being uſed, exhibites ſuch *Blood*, for the *Vein* being opened, ſuch *Blood* as is neareſt the *Superfice* of the *Veſſell* comes firſt out, which diminiſhing the Preſſure of the *venal Blood* on the borders of the *Arteries* adjacent, the *Arteriall Blood* ruſhing into the *veins*, Imbraces and caries along with it the *opime Particles* of the *Blood* unto the *heart*, leaving theſe behind that are *unapt* or *incongrous* to the *genius motion* & *Imbraces* of the *Spirits*: Whence it happens that more of theſe, *vitiat Particles* are heaped up together toward the ſide of the *Channel*; For ſuch by their *congruity* and *ſimilitude* involved in mutual Imbraces ſticke cloſs by others; And ſo this ſtream of *labefacted Particles* coming firſt out at the *orifice* of the *Vein* does not only cloſe it to the *opimer Blood*; but they following cloſe ſtick to one another & make like a *Thread* Spun out at the *Orifice*.

And it is known with how much the greater *Stream* the *Blood* ſprings forth of the *Vein* cut,

by ſo much the more it appears *Labefactled*, and the Patient has alſo more eaſe thereby: Becauſe the *Blood ſtagnating & turgent* in the *Veines*, the *Labefactled* part thereof no wayes obeying the motion of the *Spirits*, & of the *Opime Blood* but deviating into corners is eaſily thruſt out at *Chinks* and *Holes*.

Why the ill Blood comes firſt or laſt.

In ſo far as Concerns the firſt and laſt coming out of this *vitiated Blood*, and the appearing thereof alſo thus different in the meaſures receiving it; It would ſeem when it comes firſt out that theſe *Particles* either lay moſt in the *Veins*, or that the *Contranitencie* of the *venal Blood*, againſt the *Arteries* being leſſer, ſuch *Particles* are alſo ſoon caſten off from the *Arterial Blood* coming into the *Veines:* But on the other hand when theſe *Particles* ly deeper in the *Arteries* or *Capillary veſſells*? Or where the *Stagnation* or *Cantranitence* of the *venal Blood* being more, yields only to a greater effuſion of *Blood*, the ſegregation and expulſion of theſe *Particles* is ſlower,& the *labefaction* apears moſt in the laſt meaſures. For which reaſon, and alſo in the caſe where the Patient can more eaſily bear the ſame quantity of *Blood* to be evacuat by degrees,rather then all at once;it would not be impertinent alwayes

alwayes to make ſome ſtops of the *Orifice*, till the *Blood* being cooled give the marks of its temper; whence may be made a computation of the due meaſure and quantity of the preſent *Evacuation*.

From all theſe things thus *tranſacted*, it is evident that the integrity of the Functions, and the ſerenity of Health does depend on this *motion* and *circuit* of the *Blood* duly performed; except it be in the *affects* of the *Brain* and *Nerves*, the Foundation whereof is alſo laid by ſome latent vice of this *motion* of the *Blood*: And farther that this courſe may throwly proceed, and that the *reflux* of the *Venal Blood* may not only furniſh matter to the *efflux* of the *Arterial Blood*, but alſo that the *Venal* by its ſtagnating may not overballance it, or with its weight hinder the *arterial Blood* to ſqueeze out any *obſtacles* of its motion ſticking into the *Channels* of the *Veins*; ſuch is the *wonderful providence* of *nature* (I ſay to diſpatch the *incumbrance* of this *Motion*, eſpecially from the weight of the *venal Blood* preſſing againſt the *Arteries*) that ſick People without conſidering ſo much, are put at once under the Remedies and effects of their evils, by their lying down upon the approach

Why People ly down upon a fit of ſickneſs.

of any fitt of Sickneſs: For, as the Famous D. *Lower* has obſerved in *Tractatu de Corde*, the native Gravity of the *venal Blood* below the Heart augments its *preſſure* againſt the *arteries* more when the Body is upright, than when that ſituation is changed into a plain *level poſture*, by lying down; for then the *venal Blood* flowing like a *River* in a *level Channel*; and ſo being more eaſily carried back to the Heart, both takes off the *contranitencie* from the *Arterial Blood*, & does at the ſame time ſupply the *Heart* with Matter for new *Arterial Blood*; and alſo hands about the motion of the *Arterial Blood* into the *veins*, and thus the *Symptoms impendent* are warded off.

Why Blood letting is eaſieſt when lying abed.

And much for the ſame reaſon it is, as is obſerved to good purpoſe by ſeveral *Practitioners*, that ſick People can with more ſafety & eaſe endure *Phlebotomy* lying on a Bed, then ſitting upright, becauſe in that ſituation the *Preſſure* of the *venal Blood* againſt the *Arterial* being leſs, is not only with leſs quantity of *Blood* let out taken off; but alſo the intercepted courſe of the venal Blood to the Heart in that poſture is ſooner *redintegrated.*

If there ſhall yet remain any doubt of the Verity or Probability of the *Hypotheſis* of the

the ſlowneſs of the *Blood* in *Fevers* from the *viſcoſity* & *craſſneſs* and the *obſtruction* of the *Channels* thereby, because the *blood* drawn off *feveriſh* perſons oftimes remains without any ſolid *coagulation*: from which many Authours have deduced the *tenuity* of the *Blood*.

An Objection of the Bloods not coagulating when drawn in Fevers answered.

But the more cloſs conſideration of this *Phænomenon* will ſhew it far otherwayes, for it is certain, that *Blood* drawn does *coagulate*, the *craſs* and *heavie Particles* ſubſiding, and the *thinn* and *watry* Parts ſweeming above, upon this very reaſon that the *ſeroſity* is enduced with ſuteable *Levity* and *Tenuity*, and the *clotty* parts have their due *ponderoſity* and *craſneſs*, with ſuch *dimenſion* in reſpect of the *tenuity* of the *ſeroſity*, as may make the *ſeparation*: So that by the *Levity* and *Tenuity* of the *Serum*, the *grumous* parts fall to the bottom; and on the other hand by the *gravity* and *proportionable dimenſion* of *grumoſity* the *ſeroſity* ſweems on the top: But if after *refrigeration* the *Blood* remain without diſtinct *ſeroſity* and *grumoſity*, it truely denotes either the *tenuity* of the *ſerum* to be *vitiated*, and its *viſcoſity* augmented; Or the *gravity*, at leaſt the *dimenſions*, of the ſolid *Particles* in reſpect of the *ſeroſity* to be altered! And ſo the

Solid

Solid Parts and *Globuls* of the *Blood* are kept in the *Embraces* of the *ſerofity*; Each balancing another ſo equally that no *Percipitation* or *Secretion* of the *Craſs* from the *thinner parts* is made.

SECT. XII.

Purging in Fevers conſidered from Reaſon and Authority.

THE next practical *Phænomenon* to be conſidered with its uſe and utility in *Fevers*, and how it clears the ſuppoſed *Hypotheſis* is *Purging*, as coming in the *Method* of our Author immediatly after *Phlebotomy*: And is only required when there is plenty of *Fewel* to nouriſh the Diſeaſe lodged in the *firſt wayes*, the *Stomack*, *Inteſtines*, *Meſentere*: Which by its emitting of *Crudities* into the *Region* of the *Blood* introduces new Obſtructions, the former being ſcarce well ſubjugat and ſubdued; and cauſes the continuance of the former *Scenes* in a *Theater* very much diſpoſed thereto: And that by joyning forces with the *Perſpirable* matter retained, ſcarce yet eliminated: whole choke Nature ſeverally and ſeparate would be able to ſuſtain; but being altogether unequal

qual to their joint aſſault, without freſh ſupplies ſhe muſt thereto yeild and ſuccumb: Then is moſt welcome the aproach of the *Cathartick* with its force & power, as only ſufficient to intercept and divert the Enemies Ptoviſion and Forrage from this Coaſt.

But farther, to evince the ſecurity, utility, yea neceſſity of this *Auxiliarie* of *Nature* in this Inteſtine War; it's to be conſidered that this Method of our Author is not only exactly adapted to the *Concatenation* and *Complication* of cauſes making and fomenting this War; but thereby all the *Auxiliaries* are drawn up and planted in that *Order* and *Battalion Form*, that each of them does both back and make good each others aſſault; And bridle and reſtrain their *Depradation*, *Ravageries* and *Exorbitancies*: For the *Cathartick* and *Paregorick* Forces charging the Enemie ſeverally and alone, in ſtead of *Auxiliaries* often prove *Depredatory*: So then in the firſt place comes *Phlebotomy*, whereof the proper & direct effect is not more to be conſidered, then the *Reſpective & preparative relation* it has to the *cathartick*, (often times to be given on the back of it;) comes to be remarked: Which in that *order adminiſtred* as it *operats*, gently and without

out *tumult*; So does it more efficaciouſly then being adminiſtrat otherwayes. And this as it is obſerved by the moſt famous *Silvius* is comunicat as a remarke very uſeful in Practiſe. And thô there can be no ſuch perſwaſive Arguments for this as experience; Yet for ſatisfaction of the curious inquirer of the reaſon thereof, & that they may have an adequat *idea* of the *Phenomenon* (perhaps alſo bringing light as well in other caſes as this,) I ſhal make this eſſay to give a reaſon therefore.

It ſeemes probable that all *tumult* and commotion in the Body, with anxieties and trouble accompanying it, has its riſe from the complication of thir cauſes, and according to their *Intenſion* or *remiſſion* is more or leſs, *viz.* From the *energie* of the *Impellent* faculty or *exploſion* of the *Spirits*, exciting fruſtraneous *Eſſayes* to paſs themſelves throw their *Medium*, or to carry matter throw proper paſſages deſtinate for that end: and theſe Eſſayes are *fruſtraneous* either becauſe of *indiſpoſition* and *inaptitude* of the *matter* throw *viſcoſity* or *groſneſs*; Or becauſe of the cloſneſs or *Scabricity* of the paſſages: And ſo theſe *exploſive* motions of the *Spirits* terminate in *colliſions*, *repercuſſions*, & *irkſome touches* of themſelves; Or of that moveable matter upon

upon the *Walls*, and *Fibres* of the *Veſſels* and *Bowels* inducing therein *Irritations*, *ſpaſms*, *anxieties*, and *troubleſome ſenſe*: ſome being affected principally & ſome by conſent: in which tumultuating ſtate the *Functions* deprived of their due *Incomes* and *Recruites*, do alſo languiſh; and conſequently become *lank* in their office: So then on the approach of the *Adventitious irritating* and *ſtimulating* force of the *Cathartick*, either under a preſent *Orgaſme* thorow the foreſaid cauſe, or under a *Diſpoſition* or *Proclivity* thereunto; there muſt neceſſarly a *Tumult* ariſe; or one already begun be heightned; there being ſo much of an additional cauſe put, as the *Commotion* of the remainder of the *crude humors* ſtirred up by the *Purgative*; which being thereby ſomewhat *attenuate*, are eaſily carried into the Blood; and do by their viſcoſity and groſſneſs, which makes their unaptitude to go throw the ſmall *Channels* and *Veſſels*, ſtop and cloſe theſe *Channels*.

But by *Veneſection*, the *Obſtructions* as was ſhown, being much reſolved, and the courſe of the Blood in a manner reſtored, theſe *Spirits incitat* and *irritate* by the *Purgative* enjoying a free courſe throw a *pure medium*, and

do *excite* no *tumults*,& alſo theſe *particles* of *commoved matter* meeting with a *brisk motion* of the *Blood* & *patent channels*, are ſoon *diſſipate*, *ſcattered* and *expelled* by *perſpiration inſenſible.*

Authorities purging for in Fevers.

And the Benefit of *Connecting* immediatly together *Phlebotomie* and *Cathartick*s in *Fevers* has been the ſucceſsful *Practiſe* of many *famous antient Authors* (yet none thereof adverted the beneficial uſe of the *Paregorick* after the *Cathartick*) as *Riverius* in his *Practiſe of medicine*, *Lib: xvi. Of the peſtilent Fever*, *chap* 1. In that moſt cruel *Fever* that raged at *Montpelier* which took away the half of theſe that were infected therewith, althô the ſick People had the eruption of *parotides*,& were brought to extreme weakneſs, yet he, induced with the unſucceſſulneſs of all other Methods Cured them with *Bleeding* and *Purging:* So that none that were ſo treated by him died. And *Sylvius Delaboe* that, deſervedly to this day famous, *profeſſor* & *Practitioner* of *Medicine at Leyden*, does in the *firſt Book* of his *practiſe*, *Chap*: 29. Inſtitute his Cure, yea of Burning *Fevers* with *Blooding* and *purging*; the *purge* to be given even within an hour after the *Blooding*: And he appoints both to be reiterated till the

Fever

Fever become much thereby ſubdued. And *Donckers* that *Famous Practitioner* in *Cologne* in his *treatiſe* of the *Petechial Fever*, which is the ſame with a *Malignant Fever*, does follow much the ſame *Method*, begining with *Purging* & *Bleeding* in that *Fever*: and gives with all this *Practical* Caution in the uſe of Purgatives, that, eſpecialy to theſe whoſe Conſtitutions and Strength are not known; they be adminiſtred, not in one whole *Doſe*; but in partited *Doſes*: For a larger quantity that way given, will have a more mild and a far more effectual operation, then a leſs quantity by the third given at one *Doſe* will have.

Some Practical Cautions Concerning Purging in Fevers.

But above all which I have yet obſerved to contribute to the ſecure & effectual preſent operation of *Cathartick*s in *Fevers*, there is nothiug to be compared to *volatile Salts*, with which the *Doſes* given to *Febricitants* being well imbued; The *anxieties*, *tumults*, and *faintings*; Uſing to ariſe during the time of the operation are extraordinarly checked and ſupreſſed: But yet if by the preſent diſpoſition of the Body, there be ſuch a proclivity to *Orgaſmes* and *Anxieties*, in the time of the operation; That theſe *volatiles* given in

Other Cautions.

this manner are not ſufficient to Bridle them: It may be ſurely as I have frequently obſerved, and to great ſurprize, as it were like an Inchantment done, by the reiterated adminiſtration of theſe *volatiles* at that time in a convenient *vehicle*: Which has ſeldome or never been obſerved to faill of the deſigned effect; And makes the purgative abſolve its operation without any troubleſome or hurtful ſymptome; And the reaſon of thir effects ſeemes to be by the intimately commixing the *Volatile* Salt with the *Cathartick*, or the Superadding it, ſo that wherever the *Cathartick* coming exerts its ſtimulating force and operation with uneaſieneſs, it is attended alſo with the opening and atenuating efficacie of the *volatile* making its operation eaſie.

SECT. *XIII.*

The benefit and ſeaſon of uſing Paregoricques *in* Fevers: *and there* Diaphoretique *vertue comended, and the danger of other* Diaphoretiques: *with a doubt from the* Author Sydenham's Conſtitutions *of years anſwered, and this* Method *ſhown to be common to all* Conſtitutions.

BUT at length when the *Fewel* or *matter* being the *antecedent* cauſe of the diſeaſe is ſo plentifull and Contumacious, that being

ing only raked up & troubled by the *Purgative*, it therefore does send into the *Blood* more *crudities* and *viscosities* then the *Motion* and *Crasis* of the *Blood* only newly restored can fully subdue, and which appears alwayes most sensibly and palpably by an Ingruescence of *anxieties uneasines*, and *sickness* after the *Purgative*: Then does most oportunely come the third and last *auxilliary*, (the sole invention of our Noble Author *Sydenbam*) to be at this season used: and this occasion does not only securely bear, but Invites and Implores for the use of the *Paregorick*; By which not only are stroaked and repressed these *stimulating Impressions* stamped on the *Spirits*, by the *commotion* of the *crudities* diffused throw all the *Regions* of the Body, which are thereby *contaminated* with *viscosity* and *obstruction*; But also a *sequacity*, *attenuation* and *yeilding* in that *viscide* and *obstruent* matter, is obtained by the *Paregorick*; Which, bringing on sleep and rest does refocillate and recruit all the *functions*, whose Integrity and Vigour cannot miss to perform *peice meal* the *attenuation* of the relicts of that *viscide matter*. And thus the Tumult apt to arise upon the *Purgative* being intercepted by the *Paregorick*, an other *Cathartick* may be administred under the *pacifiedti*

cification obtained by the former *Paregorick* which having alſo brought off ſome of the *Fewel* of the diſeaſe, its *Tumultuary* effect may be likewayes preveened by a ſubſeqent *Paregorick*: And ſo comodiouſly and ſafely we may *Purge* and *Quiet* by turns, as the quantity and tenacity of the matter requires, and make the *Purgative* exert its deſired effect without any Noxious one; Until the *evacuation* of the whole *fomes*, and in conſequence the Famiſhing of the *continent* cauſe of the diſeaſe: And for any ſmall relicts of the matter, that eſcaping the *Purge* having got in, do fluctuat in the *Maſs* of *Blood* and yet do moleſt and trouble it; Theſe will be eaſily and ſafely eliminated by the *diaphoretick force* of the *paregorick* ſtill to be continued: with which *diaphoretick* vertue it is clearly teſtified to be endued, by ſeveral famous Authors, from their ſure experience, As *Wedelius* in his *Opiologia*, and *Ettmullerus* in his *Treatiſe de vi Diaphoretica opii*, both (avouching many other *Authorities* for it) clearly manifeſt the ſame.

And how acceptable muſt the uſe of the *paregorick* be unto Nature, in reſpect of its quieting vertue, under this *confuſion* and *imminent conſternation* of the *œconomie*? For it may

may be eaſily ſuppoſed that Nature, wearied by wreſtling with the diſeas, would very gladly embrace and cheriſh a truce; as if ſhe would hold a Counſel to deliberate; (which now may be ſecurely done, the ſtrength of the Enemy being in ſome meaſure broken and intercepted by the *Cathartick*) and to put to execution her reſolutions, unto which ſleep and reſt is eminently ſubſervient, eſpecially coming in this order.

The hurt of meer Diaphoretiques in Fevers.

But that which more evidently contributes to this purpoſe, and commends the uſe of the *Paregorick*, is its having the joint vertue to be both *Quieting* and *Diaphoretick*; in which it excels all other *Diaphoretick*, which by their Impetuous & Precipitant *Stimulating* crude Matter toward obſtructed *Channels*, do both raiſe a great *confuſion* there, and rivet and fix that matter more therein: Much after the like manner, as when a Houſe ſuppoſe a Church is filled with People, and this People being ſtruck with ſome ſudden terror, ſhould all ſtrive to go out together; this ſudden and univerſal preſs of going out, will certainly both beget ſuch a Confuſion, that each will hinder other attempts to get out, and make the eſſay of all to be in vain,

every

every one proving like a wedge to keep in one another: While after the uſual and ordinary way, *Patience*, *Order*, and *Quietneſs*, will afford to all an eaſie egreſs; by making theſe at more diſtance from the Doors, to wait untill a way be open to them, by the removal of theſe that are neareſt thereunto. So much after the ſame manner it may be apprehended, that a great and perrilous Confuſion will ariſe in the Body filled with *crude* and *viſcuous Humors*, whereby the impulſe of *Diaphoreticks*, they are all carried in Choak toward the ſuperfice of the Body: In which journey the more *crude* and *viſcuous Matter* lurking in the firſt waves, as obnoxious to the firſt and moſt valide impulſe of the *Diaphoreticks* is propelled into the Blood; by which its motion already vitiat or vaccillant comes to be more obſtructed: And beſide there is alſo thereby more Matter driven toward the Pores already ſtoped and diſtorted, then can be expelled by them; which muſt be ſent back again to the Blood, and from that to the Head and Nerves, where it will act dangerous *Tragedies*. But to make this Evacuation happily by *Diaphoretieks*, Nature and Reaſon ſeems to dictat that it ought to be gone about the juſt contrary way.

way; first by opening the Pores and roborating the Fibres, to invite the neareſt and *perſpirable* Matter ſticking in the *ſuperfice* of the Body to *exhale*; then that which is next and mixed with the Blood, by a patent way may be ſolicited to *perſpire*; and at length if ever happily, the *Crudities* in the firſt wayes may be inticed forth by this path with *Diaphoreticks*.

The hurt of a method directed to a Criſis.

And it is not to be queſtioned, but many of the *Symptomes*; and theſe moſt dangerous ones in *Fevers*, has their riſe from the *Method* and *Regimen* directed toward the courſe of a *criſis*: which will be evident both by pondering what is already ſaid, and alſo if it be obſerved, how many dangers attend on all hands, in the *courſe* of a *Criſis*, made either by *Nature* or *Art*, becauſe for the moſt part Nature ſtands hovering with an *equal Ballance*, whither to determine the *Criſis* to Life or Death: For often the plenty or tenacity of the Matter, makes Natures endeavours terminate either in no *Concoction*, or in one without excretion: But if by hard toyl it elaborate an *Excretion*, it is often intercepted by a Funeſt, or at the leaſt by an Irkſome Tranſlation into an other Diſeaſe; as by the

the *morbifick Matters* being poured out upon ſome Noble and Internal part: Whereas the Method of our *Noble Author*, being free of all theſe Dangers and *Labyrinths*, never tarries on the *Criſis*; but ſmothering the Diſeaſe in the Egg, ſuffers it not to run its uſual *Tragedies*.

A difficulty anſwered ſhewing that this Method agrees with all conſtitutions of years.

Moreover, it is here ſeaſonably and ſeriouſly to be noticed, by all that will conſider the benefit of this *Method*, that it muſt not be ſuppoſed bounded within the narrow limites of the *Fever* of one *Conſtitution*; and that it doth not enlarge its Juriſdiction and *Empire* over all *Continual Fevers*: For when our *Expert Author* did at the firſt draw his ſagacious Obſervations, concerning acute Diſeaſes, from the *prototype Nature*, he did moſt properly then impreſs the variety of *Symptomes*, and *Cures* of Diſeales befalling ſeveral *Setts* of Years, with the name of diſtinct *Conſtitutions*: Thô the variety and differences of the Diſeaſes of theſe *Conſtitutions* ſeem to import no more but what might depend on the more or leſs plenty or contumacy of the *morbifick Matter*, which made its eaſie or difficult *Concoction* or *Elimination*: Therefore according to the Method

thod of a *Criſis*, he levelled in theſe *Conſtitutions*, as the genius of that *Intention* would permit: So it was only the difference of the Cures by way of a *Criſis* that did with him intitle different *Conſtitutions* of theſe Years.

But in the laſt *Conſtitution* of which he treats in his *Schedula*, moſt happily falling on a *method* that did ſute with that *conſtitution*; and expending it further, he did find it a *method* that did quite alter all the former meaſures, and conduct of the cure of *Fevers*, and conſequently his *conſtitutions*: and that it was a method which made the practice of the cure to run in an other *channel*, and which did take up different *indications*, & paſſed over the needleſs & dangerous conduct of Nature throw the *maze of a criſe*; As that this *method* did ſave the ſtrength of Nature, from a *laborious prodigal* and uncertain profuſion: and was a method that profitably and ſecurely anticipated the *criſe*, he did therefore moſt reaſonably judge it, as I received it from his own mouth, that it would agree with all manner of *continual Fevers*: neither can there be yet any ſolide experience brought into the field, that will weaken this Concluſion, while the daily practice of ſundry *Phyſicians* offers it ſelf to all that will notice it, clearly eſtabliſhing the efficacie of this *method*.

SECT.

SECT. XIV.

The further Helpers *in* Fevers *conſidered, and how they work and confirm the* Hypotheſis; *ſuch as* fixed *and* volatile Salts, Alcaline *and* Teſtaceous Concretes; *and alſo* Cuppings, Leeches, *and* Frictions. *Where alſo ſome* Phœnomena *of* Hurters *are conſidered; as the continual* Sweats *in* Fevers: *And the continual lying in bed: And lying with the head much* Depreſſed: *For all which, Reaſons are given confirming the* Hypotheſis.

IT remains in the next place to enqnire into other Helpers and Hurters in *Fevers*, how they *Operate*, and if the explication of ſuch *Phœnomena* can bring any light to the foreſaid *Hypotheſis*: And firſt, as for *helpers volatile*, and *fixed ſalts*, are by the conſent of all granted to be very effectual, which altho in the caſe of a copious *fomes* they ſeem not to be ſafe, yet the clearing how they work, may ſhew as that they are effect-

effectual, ſo when they are fit: then to anſwer this it would be noticed, that as the *ſtate* or *craſis* of the blood may be vitiate two wayes, ſo there may be ſo many wayes *ſtops* and *bolts* put ſo themotion thereof inducing its ſlowneſs and making it need more frequent or greater *pulſes* to drive it on to diſtribution; And firſt, when the *ſeroſity* of the Blood, endued with due *tenuity* ſerves for a fit *vehicle* for the *globuls*, but theſe *globuls* are vitiated either by their *bulk*, *number*, or in their *figure*; that is by *ſcabricity*, all which *vices* ſeverally, much more when they are *complicate*, makes theſe *globuls* ſtick and ſtop in the ſmall *paſſages* and *channels* of the *veſſels*; and ſo *baricade* up the courſe of the Blood, that there are raiſed frequent and violent pulſes of the *heart* and *arteries* to remove them, and carry on the *blood*. The next fault in the *craſe* of the Blood is, when the due *proportion* in the *number*, *bulk* and *figure* of theſe *globuls* is kept; yet the *tenuity* of the *ſerum* is vitiated by *viſcidity*; and this fault alſo makes the Blood ſlow in its paſſage throw the ſmall *veſſels*; to overcome which the *heart* does excite great and frequent *pulſes* likewiſe; In the firſt caſe, where the *globuls* are only vitiated, and the *ſerum* intire;

the

the ſick are infeſted and weakened with *ſweats*; Becauſe the frequent pulſes drive away the *ſeroſity* of the Blood out at the *pores*, (which is called the *diſſolution* of the *craſe* of the *blood*) leaving the *globuls* cruded up together in the ſmall *veſſels*.

And in this caſe *fixed* and *Alcaline ſalts*, *teſtaceous* and *marine concrets*, made in ſubtile powder ſeem much to help, becauſe all theſe *concrets* conſiſting (as is known) of *particles* very *rough*, *ſcabrous* and *rigide*, the minuteſt particles whereof, where ever they go carrying that Figure with them: ſo then ſuch being mixed with the *blood* and carryed along with it muſt neceſſarly, impinging on the *obſtructions* and *ſcabricities* in the ſmall *channels*, not only ſcoure and clear them, but likewiſe by their *continual Attrition* of the *Globuls* of the *Blood*, they muſt *poliſh* and grind theſe *globuls*, and make them fit for *paſſage* thorow theſe *channels*.

As to the other *ſtate* and *craſe* of the *Blood* where the *Seroſity* being *viſcide* makes the *ſlowneſs* of the *Bloods* motion, here as there are no ſweats, ſo it's difficult to raiſe, & dangerous to attempt them.

Before any remedie can be juſtly levelled for the removal of this fault of the *Blood*,

it

it muſt be firſt inquired in what this *viſcoſity* does conſiſt: it ſeemes then that *viſcoſity* being a degree of *Solidity* and *Firmneſs*, and the firſt ſtep from *Fluidity* thereunto, and that *Fluidity* conſiſting in the *actual* and due *Motion* of minuteſt parts of the *Liquors*, *viſcidity* then muſt Import ſome abatement and diminution, as of their due *Fluidity*, ſo of their *Motion*; And that either from the weakneſs of the *Principle* of that *Motion* or the *unaptitude* of the matter to receive and obey *Impreſſions* of that *Principle*; As having ſome *glewy viſcous* matter mixed therewith: But whatever it proceids from, it is certain that the outward or ſenſible *Reſt* in Liquores that naturally ought to be moved, is a concurring Cauſe to there *viſcoſity*, ſo the agitation of Liquors does altogether take off there *viſcoſity*; As may be ſeen in the example of Ale, which being *ropie* and *viſcuous* is by toſſing and agitating thereof in a Bottle cloſs ſtoped, ſoon brought to leave its *viſcoſity*: So then the *viſcoſity* of the *ſerum* of the *Blood* ſeemes to be the effect of its want of due motion; And is further a cauſe to hinder that due motion of the efflux and reflux; And as this *viſcoſity* ſeems originaly to depend upon the *ſerum* not being duely *Impregnat* and *Irradiat* by the *Spi-*

rits,

rits, which do make it *diaphanous* and *ſubtile*; ſo the want of this *irradiation*, may depend upon its *viſcoſity*, hindering that *irradiation*, and ſo as theſe cauſes may hinder its due motion; that want of due motion alſo does exceedingly contribute to its *viſcoſity*, and *check* the *influx* of the *Spirits*: And thus every one of theſe are mutually *cauſes* and *effects* to one another. Yet unto theſe Effects from whatſomever of theſe cauſes they be produced, ſeem much conducible all ſuch things which give copious Matter to the generation of *Spirits*; and alſo which give them being generated alſo *Spurrs*; ſuch as are all *volatile Salts*, which for this reaſon are known to break and *attenuate* all *viſcoſity*: But theſe are indeed to be uſed with moderation and warrineſs in *Fevers*, leaſt we ſhould ſpurr faſter than we open and clear the way; and ſo theſe *Spirits* too much *incited* ſhould waken up or exaſperat all theſe *Scenes* of *Confuſions* and *Tumults* to which the Blood is very prone under this ſtate.

It is certain, that long experiencee has found the uſe of *Cuppings*, *Leitches*, and *Frictions* to be very beneficial in theſe *Fevers*: The cauſe whereof being enquired into, will alſo confirm this *Hypotheſis*: For theſe being

being uſed in ſeveral places of the Body, as they alwayes are when beneficial, by their raiſing the Fleſh and Skin, they do ſhake and looſe throw all the circumambient parts, that *congealed* and *clotted* Blood obſtructing the *capillary Veins*; which does facilitate the *arterial Blood* to run more eaſily throw them, and that by clearing theſe Paſſages of *Obſtruction*. And for *Frication* and *Rubbing* of the Skin, that makes ſuch *Impreſſions* on the *capillary Veſſels*, by preſſing them hither and thither, that it muſt neceſſarly force the *obſtructing Matter* into motion again: And moreover the benefit, that even in *Fevers*, has redounded to ſome by *riding*, yea when the Patient was neceſſitate to be held on Horſe-back for a while, can be no other wayes accountable, but by the *Impreſſions* that the *jogging* of the Body makes on the *fixed* and *coagulated* Humores, to ſet them again a going.

Now as to theſe *Phænomena* which are hurtful in *Fevers*, it is no leſs certain that theſe being duely pondered, will alſo confirm this *Hypotheſis*, for it is clear that in many *Fevers* the ſick are poured forth all in *Sweats*; And that without any eaſe thereby, but rather with great hurt and weakening: Therefore as our experimented

Auther

Author obſerves theſe ought not to be indulged, but rather checked.

Now this *Phænomenon* may be eaſily ſolved, by conſidering that the *ſeroſity* of the *Blood* is in this caſe, by the frequent Pulſes ſqueezed out from the *Globuls*, whereby the *Blood* being much thickned, the obſtructions are increaſſed: whil Sweats called *critical* and giving eaſe (which rately fall out in long and great *Fevers*: Becauſe theſe are nouriſhed of a *copious* and *viſcide fewel* in the firſt wayes:) fall out in diſeaſes only cauſed by perſpirable matter firſt *attenuat* and *comminuted* and nixt *expelled* by *Sweat*, and as this *evacuation*, is altogether the effect of Nature, ſo it rarely ſucceeds happily by ſtimulating Medicines: Which after its wiſely argued, is moſt reaſonbly concluded by *Sydenham* in his *Schedula Monitoria.*

Continual lying in the naked Bed why hurtful in *Fevers*

And further as our *Author* obſerves and dayly experience alſo confirmes, it is very much Hurtful to Perſons in *Fevers* to ly continually in the naked Bed: For the continual Heat of the Bed doth exceedingly *laſh*, *enervat*, and *relax* the *tone* and *firmneſs* of the *pores* and *fibers*; Whereby they *ſhrinke* and *creep* in,

in; And ſo retain the *perſpirable matter* which ought to be evacuate threw them, and this *matter retained recoiling* on the *Blood* does much increaſe all the *tumult* and *diſorders* there: But by expoſing of the Body to a moderat refrigeration by putting on the Cloathes ſome Hours in the day, the Natural Heat is both *Concentrate* to expel that *perſpirable Matter*; and the *Tone* and *Firmneſs* of the *Pores* and *Fibres* are reſtored to give a free paſſage to it. And this is very ſuitable to the *Experimental* doctrine of *Sanctorius*, who finds and Declares reaſonably that, *the inward heat being by the external heat too much diffuſed, is not ſufficiently Concentrate, & bended to expel the perſpirable matter; as it happens in Æſtival heat that is very troubleſome to the Body, not ſo much becauſe of any vehement Impreſſions it makes thereon, For every part of the Body is hotter of it ſelf then the external heat affecting it; But becauſe of the detenſion of the* Perſpirable *matter through the defect of ſufficient* Concentration *of the Internal heat to expell it.* And indeed this *ſtate* of the *internal* heat does alſo render it ſubject to ſeveral *indirect* and *refractive* Motions, in ſtead of the *direct* motion by which the *perſpirable matter* ſhould be ſweeped forward, and expelled: ſo the leſion of *perſpiration* upon theſe

reaſons ſeemes in this caſe to be amended by the Patients keeping out of the naked Bed ſeveral hours of the day, and lying on the top of the Bed with their Cloaths on: And in that Situation rather than the upright poſture of the Body, the *vacillant reflux* of the Blood unto the heart is alſo promoved as was ſhown.

Why hurtful to lye with the head too low.

And alſo as our Author obſerves, it is hurtful in *Fevers* and ſeveral other Diſeaſes to ly with the Head much depreſſed; it being more conducible to ly with it raiſed ſomewhat; becauſe in that poſture the lighter & finner *Particles* of the Blood,*as *Des Cartes* thinks are *ſublimed* up to the *brain* for the *generation* of *nervous Liquor* and *Spirits*; and the groſſer and heavier parts are carried by a deſcent downward: And ſo in that poſture only there is an aſcent of the Blood throw the *Arteries* unto the Head, in ſo much that the ſubtileſt Particles thereof, prove alone obſequious to the Impulſe: And if it chance that any groſſer parts mixed therewith, do endeavour likewayes to aſcend; they ſecede and turn off at the *axillarie* Branches: So that nothing but the moſt *ſublime* parts of the Blood in this poſture does aſcend,

* *De paſſ. anim. part.* 1. *cap.* 10.

like

like the ſubtile Spirits of Wine which are only carried ſo high, as is fit to ſeparate them from the *Phlegm*: But when the head lyes level with the Body, and that eſpecially in Sickneſs, and when the Blood is vitiated in its Particles and Motion; becauſe then and in that poſture there is no aſcent to the Head, nor deſcent to the reſt of the Body; the groſſer parts of the Blood being carried indifferently to the Head do there generate Obſtructions: Which muſt certainly produce all ſuch *Phænomena* as are competent to the *Brain* and *Nerves* being affected.

SECT. *XV.*

Some Difficulties concerning the Hypotheſis *Anſwered.*

IF perhaps there remain any difficulty in the mind concerning this *Scheme*, becauſe it may be thought that the Blood being alwayes firſt ſtrained throw the narrow Veſſels of the Lungs, before it come to have difficult paſſage in the ſmall Veſſels betwixt the *Arteries* and the *Veins*, that it ſhould leave or Imprint ſome marks

its groſneſs in the *Lungs*: To Anſwer this difficulty it is fit to premiſe ſomething concerning the *progreſs* and *pedigree* of *Sanguification*: And therefore it may be reaſonably thought very likely that the *Lungs* are not only the *Colatory* for, and *Teſt* of, the Bloods ſufficient *Attrition* and *Comminution*; but alſo they by their *Braying* and *Levigating* thereof, give the ſame the outmoſt *Perfection* and *Complement*: which they do by their continual *motion* and *agitation*: For their contraction and dilatation meeting with the Pulſe of the Blood coming from the Heart into the Lungs, muſt neceſſarly make ſuch impreſſions on the Particles of the Blood going throw the *Arteries* of the *Lungs*, as will attenuate, ſmooth, and poliſh them, and thereafter the Lungs ſends them thus levigated and intimately mixed with the Air back again, and that under the notion and name of *Arterial Blood* unto the Heart, to be diſperſed by it as a Pump throw the whole Body.

The manner of Sanguification.

And indeed that the *Blood* receives its outmoſt perfection in the *Lungs*, and not in the Heart; As is commonly accounted, is clear from this, that the *Blood* which is ſent from the right *Ventricle* of the Heart by pulſation

pulſation unto the *Lungs*, is nothing different from the reſt of the *Venal Blood*; While the ſame *Blood* being immediatly ſent back to the left ventricle of the *Heart* from the *Lungs*, has before it enter the heart, both the colour, conſiſtence, and rarefaction proper to the *Arterial Blood*; And differs nothing from the *Arterial Blood* in the *Aorta* or great *artery*.

Now in the caſe of a *Fever* althô the groſſer *Particles* or *Globuls* of the clotted *Blood* returning from the *Veins* into the *Lungs*, are grinded and *levigate* over again, and then the *Blood* gives ſmall token of its fault; Becauſe being ſo near, it is alſo under the brisk impreſſions of the Hearts motion, and alſo being *crumbled* by its *paſſage* throw innumerable *ramifications*, and ſmall *capillary veſſels* in the *Lungs*, while they are likewayes under a perpetual *Syſtole* and *Diaſtole*; it is ſo *attenuat* and *grinded* that any tendency to coagulation or obſtruction is ſoon put off; But yet when ſuch *Blood* comes to the extremities of great *Arteries*, where the force and ſtrength of pulſation cannot be propagated in proportion to the *Bloods* flowneſs, there then it muſt loyter and ſtop.

And moreover in ſome *Fevers*, which are indeed very dangerous ones, the ſlowneſs of the *Blood*'s paſſage even throw the *veſſels* of

the *lungs* is conſpicuous; that always making high, difficult, & frequent breathing.

And moreover the *Blood* is alſo *depurate* and *defecate* from its *crudities* and *viſcoſities* by its paſſage through the *Lungs*; And ſo by their taking care of the whole, and endeavoring to repair the faults of the other functions they ſmart for them, and become the Seat of many Diſeaſes themſelves: for that ſame *viſcoſity* and groſneſs of the Humores does frequently make blemiſhing *Impreſſions* on them, by obſtructing & tumefying their glands, many of which obſtructions are ſhaken off by the force of *reſpiration*, but not always. For althô the *Motion* of the *Syſtole* and *Diaſtole* of *Lungs*, contrarying alwayes the direct *Motion* of the *Blood* in the *veſſels* of the *Lungs* muſt ſubtilize & attenuat the *Blood*; So that it ſtickes not eaſily in the *Channels* of the *Lungs*: yet often the fault of the former functions is ſo deep *ingrained*, that the *Blood* ſent here cannot be ſufficiently *attenuated*, and the *crudities* and *viſcoſities* expelled by the *glands* of the *Lungs*; But does obſtruct and tumefie them; And breeds that diſeaſe called *Pthiſis*, or *Conſumption* of the *Lungs*: Now this Diſeaſe being of as univerſal extent among *Chronick* Diſeaſes, as a *Fever* is among

acute

acute ones; is moſt *Learnedly* treated by Dr: *Morton* in his *Pthiſilogia:* But alas! as he wiſely obſerves, the Practiſe in this Diſeaſe is rarely attended with ſucceſs; For this reaſon that the Diſeaſe ſteals on the Patient unawares; And before he perceives he is irrecoverably taken with the Diſtemper; It is then hoped, it will be thought no impertinent or uſeleſs digreſſion, if to inſtruct every one againſt the ſurprize of ſuch a remedileſs attack, there be tranſferred here from his work, which is in *Latine*, ſuch appoſite ſigns, as may admoniſh every one of the aproach of that Diſeaſe; and put them upon their guard in caſe of imminent danger, to provide the timeous help of a faithful and skilful *Phyſician.* *The firſt ſign he gives is, The Deſcent from Parents that have been* Pthiſical: *For this Diſeaſe ſeems moſt hereditary of all Diſtempers.* (2) *An evil frame of the Breaſt, whether natural, or accidental; and that is either narrow or ſtrait.* (3) *A ſmall Voice and Hollow.* (4) *White and ſoft Skin, with a thin habit of Body.* (5) *A ſoft and* Phlegmatick *habit of the* Muſcules.) (6) *Oppreſſion or Weight in the Breaſt.* (7) *Thoughtfulneſs, anxiety, ſadneſs, and anger without a manifeſt cauſe.* (8.)

The ſigns of an Imminent Conſumption given by D. *Morton.*

The

The Suppreſſion of uſual evacuation by Iſſues, old Ulcers *or any other uſual.* (9) *Spitting of Blood.* (10) *A continual haughing of Viſcide and black plegm in the Morning.* (11) *Salt or ſharp phlegm haughted up.* (12) *A pronneſs to copious evacuation of ſpittle, either with or without an evident cauſe.* (13) *An continued and increaſing proſtration of appetite, without any other Diſeaſe accompanying it, and with oppreſſion of the Stomach, and Spontaneous Laſſitude in time of digeſtion.* (14) *A Troubleſom and continual Heat eſpecially in the Soles of the Feet, and Palms of the Hands, cheifly after meat with a Pulſe ſomething too frequent.* (15) *A ſhortneſs of Breath with difficulty of reſpiration.* (16) *A great diſpoſition to the Cough, which is brought on frequently, either by a ſlender or no evident Cauſe at all, which is the moſt evident ſigne of an imminent Pthiſis.* And the more of theſe ſignes there be, the more ſtill is the danger.

The *Phænomenon* of the *Fever* in a conſumption confirmes the *Hypotheſis*.

Now this Diſeaſe having alwayes a *Fever* accompaning it, and that with an *exacerbation* ſome houres after Meat anſwering exactly to the time when the *Chyle* comes to the *Blood*, doth alſo confirm the foreſaid *Hypotheſis* of *Fevers:* For the *chyle* coming with the *Venal Blood* unto the *Lungs* to receive there

there its *attrition* and *perfection*; While they are affected with *obſtructions* and *tumors* in their glands, that muſt be *ſuperficially* done; And many of the *Particles* of the *Blood* do therefore return back to the Heart without ſufficient *elaboration*, which coming to the ſmall *Channels* of the *Arteries* betwixt them and the veins, paſs there alſo with difficulty: So that to diſtribut the nouriſhment a frequent Pulſe is raiſed, until the *Particles*, by often paſſing that way, be yet farther poliſhed & attenuated: And ſo paſſing with greater eaſe the *Fever* and *Pulſe* is remitted.

Another difficulty about the ſuppoſed *Hypotheſis* anſwered.

If any ſhall yet judge that this *groſneſs* of the *Blood* ſhould be rather productive of *tumors* and *inflamations*, then of *Fevers*: It is to be conſidered that *Fevers* and *Inflamations* have that common to them both, that they uſe to be generate together: And alſo *Fevers* do depend on *tumors* & *inflamations*, which ſhews they are near of Kin to one another: but yet they ſeem to differ in this, that *Fevers* depend on an univerſal, altho leſſer groſneſs of the Blood, which makes it with difficulty paſs the ſmall veſſels; and *tumors* depend as upon greater *groſneſs*, ſo upon total *obſtruction* of the *Blood* or other Liquores

in

in ſome particular veſſel ; And oftentimes they are generate and propagate by *compreſſion*: And perhaps it is the perverſe *figuration* of ſome particles of the Blod, or humours in reſpect of the *Pores* and *Channels* of a veſſel, which wholy ſloping makes a total *ſtagnation* therein : and this *ſtagnation* making a *compreſſion* on the neighbouring veſſels, and theſe again upon the next adjacent, affects them all with *ſtagnation* likewayes. And thus that *obſtruction* that begins in a point, may have the *ſphere* of its *activity* ſo extended as to infect all the neighouring parts with that tumour, as is ſeen in a *Thorn* which *pricking* the Fleſh does compreſs the next adjacent *veſſels*, and makes the Blood to *ſtagnate* therein; And they again compreſſing theſe nixt to them, produce therein the like effect; And ſo forth until the compreſſion ſpend its Impreſſion & force. Now in this caſe theſe *Tumors* being made of the *Blood* and *Humors*. That ſhonld ſlip throw the *Channels* when they do ſtop &*coagulate* there the *humors* are again ſet a going by the uſe of theſe things that add Spurrs to the Spirits and attenuate *viſcoſity*, ſuch as volatile Salts, and alſo by ſuch things as grate and grind groſs *Humors*

ſuch,

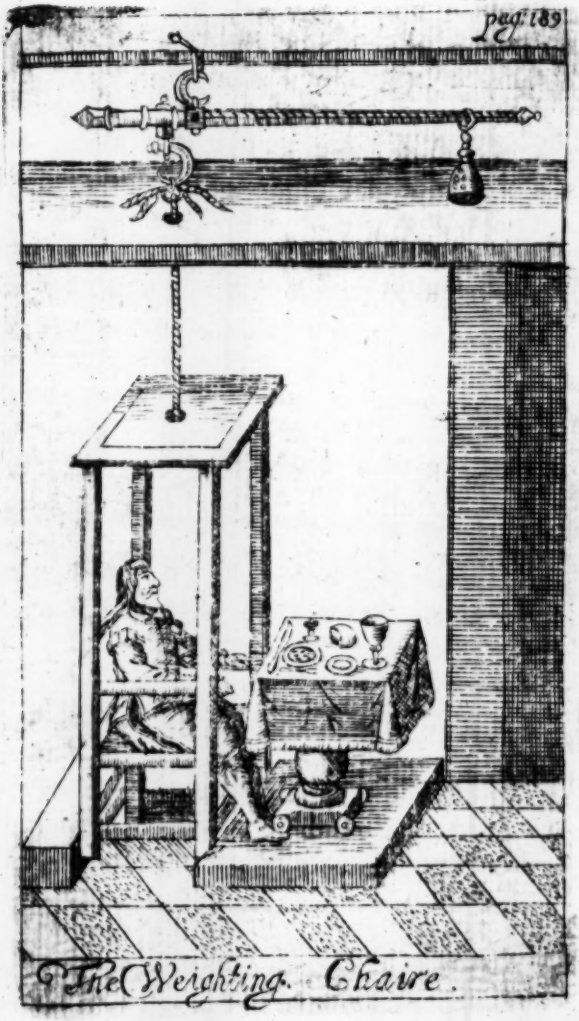
ſuch as fixed *ſalts*, *&c.* which internally uſed are all diſſolvers of tumours. And farther, as we find that the impurities which do cleave to garments worn, called *ſweatineſs*, and which being bred of the *perſpirable matter* ſticking there, do yield to nothing but *ſmegmatique mixtures*, ſo the *coagulations* therefrom within the body may yeild to ſuch internally uſed.

And indeed it ſeems that there is as much forcein the *groſneſs* & *viſcoſity* of the humors, & obſtruction depending thereupon, as will produce not only Fevers; but the moſt of all *chronick Diſeaſes* alſo: But that the various faces with which Diſeaſes appear, proceeds as from the Degree of *groſneſs* and *obſtruction*, and from the nature of the *place* or *organe* affected therewith; ſo from the impreſſion that is thereby made on the *impellent* or the *diſpoſition* of the Body, exciting either *reſentment* and *irritation*; or only *grief* and *languiſhing*; And altho in Fevers from the preſent *diſpoſition*, the impellent is for the moſt part *irritated*, and ſtrives to ſhake off the cauſe of the malady; yet in *chronick Diſtempers*, from another *diſpoſition*, it is leſs *commoved*, and rather groans under, then reſents the invaſion and oppreſſion; And theſe different effects from the like *occaſio-*

nal cauſe in the *natural body*, are *paralelled* by the like different conſequences ſpringing from the ſame occaſional cauſes in the *body politick*; For *Tyrrany* and *Arbitrary Government* exerciſed upon a *Heroick* and *Generous ſpirited People*; uſes to beget War; but all the impreſſion it makes on a *ſervile* and *deſpirited Nation*, reſolves only in *languiſhing* and *depopulation*: And the *parallel* may be yet carried farther, for as *tyrrany* & *oppreſſion* of a People is often ſhaken off by *civil Wars*; and they thereby brought into a *vegete* and *flouriſhing ſtate*; ſo *Chronick diſtempers* in the *natural body*, are often looſed by a ſuperveening Fever, and the body thereby is brought into a ſound and healthy condition.

An APPENDIX concerning The Statical Doctrine of Sanctorius.

NOw in regard the due comprehenſion both of this *Hypotheſis*; and of the Practice of the Cure of *Fevers*; and alſo of almoſt the whole *Theory* of *Medicine*; ſeems to depend upon the right and full underſtanding of the Doctrine of *inſenſible Perſpiration*; the whole fundamental concluſions whereof are *demonſtrable* to the Eye by the *Ballance*. Alſo the due *obſervation* and *regulation*



The Weighting Chaire.

lation of that *Evacuation* and *Indications* taken therefrom, contributing more to the preſervation of Health and Cure of Diſeaſes, than all other *indications* or *means* whatſomever: it will be then not thought ſuperfluous to inſert here the deſcription and uſe of *Sanctorius's Weighting Chair*, and alſo ſome *ſelect Theorems* taken out of his *Staticks*, whereby, the Reader having got a *Tincture* of that *Doctrine*, may be fully cleared of its uſe and fruitfulneſs.

The Deſcription and Uſe of the WEIGHING CHAIR.

THe *Chair* is hung about two inches from the Floor upon the ſhort end of the Ballance, and the Weight on the long end of it being removeable hither and thither, ſerves for two uſes; firſt having placed our ſelves therein we find out the daily inſenſible Perſpiration of the Body, and next ſeating our ſelves likewiſe in this Chair during the time of our Repaſt, and placing the Weight in ſuch a place of the Ballance as anſwers to the quantity of Aliment we intend to take, we perceive by the Chairs coming to the ground when we have taken the

the due proportion of Mear and Drink, beyond which, and ſhort of which, we are alwayes prejudiced.

Now the *Ballance* may be faſtned to a Beam in the Room above that where you take Refection: For it may be thought unſeemly in the ſame Room; eſpecially by reaſon of the Unlearned to whom all things unuſual ſeem ridiculous.

SECT. I.

Of the Weight, Meaſure, and Nature of Inſenſible Perſpiration.

Aphoriſm Firſt.

IF the addition of theſe things that are deficient, and the ſubſtraction of thoſe that are exuberant, be daily made as to Quantity and Quality ſuch as it ought to be; loſt Health would be recovered, and the preſent preſerved.

II. If the *Phyſician* be only capable of judging the ſenſible Addition and Evacuation, and knows not to regulate the inſenſible Perſpiration; he does not Cure, but deceives his Patients.

III. If

III. If the Aliment taken in one day amounts to eight pound weight, the *inſenſible Perſpiration* amounts to five pound, or thereabout; yet there is ſome variety therein according to the diverſity of *Natures, Climats, Seaſons, Age, Aliment*, &c.

IV. And this may be eaſily computed having weighed the Aliments taken in by ſitting in the Chair, having duly placed the Weight: then weighing the Body the nixt morning before and after ſenſible *Excretion*: The weight of the ſenſible being only found to come to three pound or thereby, the reſt being five muſt of neceſſity go by inſenſible *Perſpiration*

V. This inſenſible *Perſpiration* is made throw the *Pores* of the Body, which are *tranſpirable* in all its parts: Or by reſpiration performed by the Mouth coming out with the breath, which commonly amounts to half a pound a day.

VI. What quantity of *perſpiration* is convenient for every One in order to continue his Health may be found out thus, obſerving in the Morning after a ſomewhat plentiful Supper over Night what the *Perſpiration* in the ſpace of twelve hours comes to, ſuppoſe it comes to 50 Ounces, then another Morning after Faſting over Night, but with this

this condition, that thou didſt not exceed at Dinner the day before, make the ſame obſervation, as ſuppoſe the *Perſpiration* to have amounted to 20 Ounces: So having made theſe obſervations, pitch upon that proportion of Meat and other Non-natural cauſes which may reduce the perſpiration to the mean betwixt 50 and 20 Ounces, and that will be 35 ounces: thus mayeſt thou live a long and healthful life, and happily an hundred years.

VII. The weight of the body being augmented without increaſing the aliment, or the retention of the ſenſible excrements, is a ſign of wanting *perſpiration*.

VIII. If the body be brought to the ſame weight that it was formerly by more *copious urine*, or *ſtools*, then the ordinary; it begins to decline from health.

IX. Plenty of *perſpiration*, and much ſenſible evacuations are inconſiſtent together: and copious ſenſible *evacuations* with *perſpiration* deficient are evil.

X. That weight of the Body is the ſtandard of health, when one can aſcend a ſteep place with eaſe.

XI. The weight of the Body is diminiſhed by the evacuation either of *ſenſible* or *inſenſible* crude matter, or by ſenſible

or *insensible* concocted Matter: The latter conduces to health; and the former takes away the *Excess*, but leaves an evil quality behind.

XII. Insensible *Perspiration* attended with sweating is not good, because sweating abates the strength of the *Fibres*: Yet it may be accounted good in respect it makes a diversion from a greater evil.

XIII. Insensible *perspiration* is visible, when the nutriment is too *copious*, or when the natural heat is *languishing*, or throw *violent motion.*

XIV. To apprehend ones self to be lighter when really they are not so, is a most wholesome state.

XV. The first seeds of Diseases are sooner known by the alterations of *perspiration*, then from the *lesion* of the Actions.

XVI. The *perspirable matter* retained, neither being resolved by Nature, nor by a Fever superveening, disposes the body presently to a *malignant fever.*

XVII. Labour and pain of the body hinders *Perspiration.*

XVIII. The least cold in the night time hinders *Perspiration.*

XIX. Frequent tossing in the Bed in the Summer time hinders *Perspiration.*

XX. The internal causes hindering *Perspiration*, are, either the occupation of Nature any otherwayes: Or the *diversion* of the *perspirable* Matter some other way; or the *weakness* of the strength to expel it.

XXI. Cloaths very burdensome hinder *Perspiration.*

XXII. After the twelfth hour from the taking of Meat there is scarce *perspired* half a pound, and then is the season of giving *Aliment*, or *Medicaments.*

XXIII. To *Aliment* or *Medicat* in the hours of the Morning before that, which is the time of the greatest *Perspiration*, does hurt; because it diverts the *Perspiration.*

XXIV. The external causes hindering *Perspiration*, are, *Air Cold*, *Foggie*, and *Moist*: *Swimming* in cold water, Meats *Crass* and *Viscide*, *Intermission*, of *Exercise* of *Body* & *Mind*; and in robust Persons, *abstinence* from *venerie.*

XXV. The external cold hinders *Perspiration* in weak Persons; but augments it in *robust* Persons.

XXVI. By *Yawning* and *Streatching* of the Joints there is great endeavours of Nature to void the *perspirable* matter retained.

XXVII. The summer heat is very troublesome, when *Perspiration* is retained.

XXVIII. Venerie, *actual frigidity* of the Body,

Body, too *plentiful drinking*, and *supping* as *Young Men* do, too great *Anger*, and much *Exercise*; All these shorten the Lives of old Men.

XXIX. Insensible *perspiration* being quite obstructed in the *Brain*, causes *Apoplexie*: in the *Heart* causes *palpitation*, and in the *Matrix* causes *Suffocation*, and in the *ignoble* parts causes *Gangren*.

XXX. Vomiting diverts both *urin* and *perspiration*.

XXXI. The Knees being actually Hot, helps both Sleep and *perspiration*.

XXXII. The Flux of the Belly is Cured by promoving *perspiration viz:* By *Bathing*:

XXXIII. These that *urin* more than that they Drink, *perspire* little.

XXXIV. Hypochondriack Persons are much eased, if their Bodies be rendred perspirable by frequent Baths, and by a Moistning dyet.

XXXV. Insensible *Perspiration* being promoved by *Fomentations*, before the Body be purged, draws more to the *superfice* thereof than it can perspire.

XXXVI. Any place of the Body being very cold in the winter, hinders the *Perspiration* of the whole.

XX. The internal causes hindering *Perspiration*, are, either the occupation of Nature any otherwayes: Or the *diversion* of the *perspirable* Matter some other way; or the *weakness* of the strength to expel it.

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XXXVI. Any place of the Body being very cold in the winter, hinders the *Perspiration* of the whole.

XXXVII. To ly in the Summer time with the Body uncovered, hinders *Perſpiration.*

SECT. II.

Concerning Air and Water.

1 COld Air and waſhing with cold Water, does heat robuſt Bodies, but refrigerates weak ones.

2 Warm Air and warm waſhing unleſs Crudities gain-ſtand, help *Perſpiration*, and refrigerate the internal Bowels.

3 Water that is heavy and Air that is foggie, turn the *perſpirable Matter* into an *Ichor* or *ſharp Matter*; which for the moſt part cauſes a *Cachexy*, or evil diſpoſition of the Body.

4 In a cold and clear Air *Perſpiration* is likewayes ſtoped, becauſe the Pores are condenſed: Yet becauſe the *Fibres* are alſo roborated, therefore the retained *perſpirable Matter* is neither felt, nor does hurt.

5 In a foggie Air the *perſpirable Matter* is retained, and the *Pores* are filled, and not condenſed, and the *Fibres* are relaxed, and not

not roborated: And therefore the *perſpirable Matter* retained both hurts and is felt.

6 A cold ſuperveening to a warm day, eſpecially the uſual quantity of drink being taken, ſtops about a third part of the *Perſpiration* that day.

7 Weak perſons are moſt hurt by the ſudden approach of cold.

8 A pleaſant *Cool* coming upon Bodies heated, hurts them more then the greateſt coldneſs of *Air* or *Water*; becauſe the firſt obſtructs and relaxes the *Pores*; and the laſt obſtructs and roborats them.

9 A pleaſant ſoutherly Air with violent exerciſe, is oft times very dangerous; for the Air brings the ſtoping of the *Perſpiration*, and the exerciſe brings the *acrimony* thereof.

10 Weak perſons in the Winter evacuat the *Perſpirable* Matter retained by Urine, and robuſt Perſons in Summer.

11 Long Droughts are wholeſomer than continual Rains, for they make the Body lighter.

12 In the Summer we are troubled with heat, not becauſe of the heat of the Air, for every place of our Body is hotter then the Air, but becauſe the Summer Air does not ſufficiently *concentrat* the internal heat; but ſuffers it to diffuſe, whereby

it is leſs powerfull to diſpel the *perſpirable Matter*; which being retained becomes *Acrimonious*, and ſo becomes troubleſome to us.

In the Summer in the day time, but in the Winter in the night time, robuſt Bodies *perſpire* moſt.

14 Want of *Perſpiration* in the Summer brings a *Maligne* Fever; but in the Winter ſcarce brings any hurt: The *perſpirable Matter* retained turning far ſooner *Acrimonious* in the Summer, than in the Winter.

15 Sleeping in the open Air in the Summer with the Body uncovered, hindering very much *Perſpiration*, proves exceedingly dangerous.

16 The *perſpirable Matter* retained, is not apt ſoon to hurt the internal Bowels, unleſs it become *acrimonious* by external heat, by violent motion, or by its long ſtay.

17 The hurt of *immoderate Venery* is in ſome manner allayed by cold immediatly ſucceeding heat, which *concentrats* the internal heat.

18 In the Summer nights by the variety of the temper of the Air, Bodies are very much diſpoſed to *Fevers*.

19 From the *Autumnal Equinoctial*, until the Winter *Solſtice*, there is every day about a pound

a pound of *perſpirable matter* retained.

20. *Autumnal* Diſeaſes ſhall be eſcaped, if your body be not of more weight in *Autumn* than it was in Summer.

21. You ſhall be troubled with no Diſeaſe in the *autumn* if you meet the ſupervenient cold with ſufficient clothing, and by the uſe of Diureticks, keep the body in the ſame weight it was before.

22 Thoſe that are troubled with diſeaſes in the Winter ariſing from the plenty of humors, are to be purged in the *Autumn*, but not in the Spring: and are to be brought to the weight that they had in the beginning of Summer.

23 When Diſeaſes come from an evil *quality*, the Body is to be purged in the Spring; for the Summer increaſes moſt the evil *quality*.

24 Thoſe that throw off their cloaths early in the Spring, or are too long in putting them on in the *Autumn*, do fall into *Fevers* in the Summer, and into *Diſtillations* and *Defluxions* in the Winter.

25 Health would be preſerved even to the extremity of Age, if the Body were kept in an uſual weight all the four Seaſons of the year.

26 The increaſe of weight is alwayes in the

the beginning of *Autumn*, and the diminution thereof in the beginning of *Summer*; and there is more danger in the increaſe, than in the diminution.

27 Air too moiſt or windie hinders *Perſpiration*.

SECT. *III.*

Of Aliments, Meat and Drink.

1. *Aliments* that make the Body heavy, are ſuch as are taken copiouſly, or ſuch as are difficult to digeſt: and theſe that keep the Body light, are ſuch as we are accuſtomed to, and ſuch as are eaſily evaporated.

2. A full and a void *Stomack* both divert *Perſpiration*; the full *Stomack* by *Corruption* of the Meat, and the void *Stomack* attracts it, that it may be filled.

3. Robuſt Perſons do diſcuſs too great plenty of Meat eaten by *Perſpiration*, leſs robuſt Perſons by *Urine*, but weak Perſons turn the *Chyle* into *Corruption*.

4. If the uſual Super be intermitted, the *Stomack*

Stomack being empty, the *perſpirable* Matter is both retained, and becomes *acrimonious*, & ſo the Body is diſpoſed to *hot* Diſeaſes.

5. Unuſual abſtinence from *Aliment* does ſometime hurt.

6. The uſe of Swines fleſh, eſpecially dried in the ſmoak, hinders *Perſpiration*.

7. That kind of Meat *perſpires* beſt, whoſe weight is leaſt found in the *Stomack*; for where there is a difficulty of *Digeſtion*, there is alſo a difficulty of *Perſpiration*.

8. That Meat gives the beſt *Perſpiration*, whoſe Excrements come away conſiſtent and ſolid.

9. The time when the Body has leſt *Perſpiration*, is when the Body is full of Meat eſpecially of variety.

10. Drinking of water hinders inſenſible *perſpiration*, but advances ſenſible.

11. To eat preſently after immoderat exerciſe of Body or Mind is hurtful.

12 Eating and Drinking copiouſly, doth oftentimes obtund the *Acrimony* of the *perſpirable* Matter retained, and does hide the infirmities of the inward parts, which oftentimes upon *abſtinence* or *purging* of theſe Bodies does break out.

13. *Meat* that eaſily *perſpires* (though of ſmall nouriſhment) doth better repair the ſtrength

ſtrength decayed by too much *venery*, than Meat of greater nouriſhment, but of difficult *perſpiration*.

14, *Onions Garlick*, *Wedder Mutton* and *Pheſants* fleſh but eſpecially the *Cyreniack juice*, help the *perſpiration* of Meats that are difficult to *perſpire*.

15. Meat very little in quantity not being *imbraced* by the *Stomach*, neither digeſts nor reſtores the Body, nor *perſpires* well.

16 *Inſenſible perſpiration* is the *excrement* of the third *Concoction*, ſo that the firſt not being perfected, the third cannot be *accompliſhed*.

17. The *corruption* of Meat makes wearineſs, becauſe it diverts *perſpiration*, and this *corruption* is known by a *Celiack Flux*, by which the Meat comes away with the *excrements* undigeſted.

18. The Coldneſs and Clammineſs of the *juice* of *Cucumbers* is kept in the Veins; And other unwholſome *juices*, thô of eaſy concoction, by obſtructing *perſpiration*, cauſe *Malignant Fevers*.

19. None will fall into a diſeaſe, if they be careful to provide againſt the heaping up of *Crudities*.

20. The Supper taken with the mind troubled, does not digeſt.

21. To

21. To drink betwixt the Dinner and Supper is hurtful, but if ſo much the drink be leſs at Supper, the hurt is diminiſhed.

22. An uniform Dyet wants the benefit of one that exceeds ſometimes twice or thrice a Moneth, for the *Expultrix* faculty being ſtirred up by the redundancy, excites ſo great a *perſpiration*, as without the Statickes none would beleive.

23. In a cold Body, Hony *nouriſhes*, and *perſpires* well, but in a hot, turning to *Bile*, it hurts.

24. There is nothing that hurts *perſpiration* more, than to drink when the *Chyle* is making in the *Stomack*.

SECT. *IIII.*

Of Sleeping and Waking.

1. THE *perſpiration* in Sleep accompanied with ſweeting, is no more than it uſe to be without it.

2. In quiet Sleep there is a greater *perſpiration* than in violent Exerciſes.

3. A wearineſs after Sleep is a ſigne that the Body is of greater weight than the Body can long bear.

4. Per-

4. *Perſpiration* is more impeded in Sleep by a Southerly cold Air, than it is hindered in thoſe that are awake by the greateſt cold.

5. Thoſe that go to Bed with the *Stomack* empty, *perſpires* leſs by a third than they would do otherways.

6. Sleep is moſt proper four hours after Meat, for them the firſt concoction is near abſolved, and *perſpiration* ſucceeds beſt.

7 When the ſleep is ſhorter then the uſual, there is ſomething of *perſpirable* matter retained, which unleſs it be expelled afterward puts them in hazard of a *Fever.*

8. Streaching of the Joynts after ſleep is made by the plenty of *perſpirable* matter well prepared for *expulſion*: So there is more *perſpired* in half an hour then, than in three houres at another time.

9. Thoſe that give to ſick People Medicines two hours after ſleep (which is the ſeaſon of moſt plentiful *perſpiration*) does rather hurt then help them.

10. If there be any thing of the laſt dayes *perſpirable* matter remaining, and that be not *excerned* by an afternoons ſleep, after that *ſleep* the head is affected with a weighty pain.

11. If four hours after the begining of ſleep the Meat *corrupt* in the *Stomack*, then is *perſpiration* ſtopt and *watching* ſucceeds.

12. There is no reaſon that oftner makes watching than the *corruption* of the Meat in the ſtomach.

13. *Sleep* is more profitable in the Winter than in *Summer*; For in the Winter by the dawning of the day the Body becomes more warm, and perſpires better than it does in the Summer.

14. A little of any *generous Wine* or of *Garlick* procures ſleep and *perſpiration*, but too much of either of them hinders it, and cauſes ſweating.

SECT. V.

Of Exerciſe and Reſt.

1. In violent motion the *perſpiration* is for the moſt part of *crude* and *inconcocted juices*.

2. *Sweat* is alwayes from a *violent* cauſe and hinders due *perſpiration*.

3. The Body *perſpires* more in reſt then when it is oft turned from ſide to ſide by frequent *agitation*.

4. In a long jurney thoſe that are *chearful* or *angrie*, weary leaſt.

5. Exerciſe after the ſeventh unto the twelth hour from taking Meat, reſolves more in the ſpace of an hour, than three hours

hours of another time does.

6. Reſt diſpoſes Bodies extraordinarly to *perſpiration*, yet long reſt makes ſick Bodies heavier, which fomenting their ſickneſs, brings death.

7. Pains of the Feet coming from long lying are cured by walking, but theſe that come by much walking are cured by reſt.

8. The exerciſe of the Body evacuats *ſenſible Excrements*; but that of the mind *inſenſible* ones.

9. By too much exerciſe the *Excrements* of the firſt and ſecond *Concoction* are eliminate by the *ſuperfice* of the Body, which binds the Belly.

10. Continual exerciſe of both Body and mind makes Bodies lighter, brings quickly old Age, and untimely Death.

11. Violent exerciſe in Bodies filled with crude Juices, evacuates leſs than uſual of ſenſible Excrements, but of the inſenſible, almoſt nothing.

12. In ſleep the Body *perſpires* more than in exerciſe, and thereby the Belly is alſo made ſoluble.

13. *Frictions* and *Cupping* Glaſſes in thoſe filled with crude Juices hinder *perſpiration*.

14. Violent exerciſe where the wind blows is evil, for the wind ſtops the *perſpiration*.

tion, and the motion makes it *acrimonious.*

15. *Riding* promoves the *perſpiration* moſt in the parts above the Loins: *Ambling* is moſt wholſome, but *Trotting* unwholſome.

16. The motion of a *Boat* or a *Litter* long uſed, diſpoſes extraordinarly to *perſpiration.*

17 Violent motion of a *Coach*, evacuates the uneoncocted *perſpirable Matter*, and hurts the ſolid *Parts* and the *Reins.*

18. The exerciſe of the *Pennyſtone* diſpoſes very much to *perſpiration.*

19. *Perſpiration* wanting to perſons in health is promoved by *Exerciſe.*

20. By immoderate exerciſe the *Fibres* grow hard, whence comes old Age; but ſoftneſs of the *Fibres*, keeping them open, makes long life.

21. A Youthful Face is long preſerved by avoiding *ſweating* or *perſpiring* too much throw heat.

SECT. VI.

Of VENERY.

1. TOo much *Abſtinence*, and too much *Uſe*, both hinder *Perſpiration.*

2. *Venery* does good, when after the nexe ſleep there is no wearineſs found.

3. Im-

3. Immoderat *Venery* with a Perſon very much deſired, hurts leaſt.

4. After an inclination to *Venery* to forbear, does bring agility of the Body.

5. The preſent effect of immoderat *Venery* is the Refrigerating the *Stomack*; and the ſubſequent is the hindring of *Perſpiration*: Whence come *Palpitations* in the *Eye-Brows*, and in the *Joints*, and thereafter in the principal Members.

6. Immoderat *Venery* hurts moſt in the Summer.

7. Thoſe that in *Venery* purpoſely do not emit *Sperm*, fall into tumors of the *Teſticles*.

8. Immoderat *Venery* after the Stomack hurts the Eyes, generates the Stone, Catharhes, and Palpitation of the heart.

9. Flatulent Aliments after *Venery*, ſuch as *Oyſters* and *New Wine*, are pernicious.

10. While *Venery* is to be uſed, little or nothing is to be eaten: And while you muſt eat, little or no *Venery*.

11. *Venery* prompted by Nature is beneficial, but prompted by the mind, hurts both mind and memory.

12. After exerciſe *venery* is unwholeſome; After Meat not ſo much, but after ſleep it is moſt wholſome of all.

TITTLE

SECT. VII.

Of the Affections of the Mind.

1 BY *Sadneſs* and *Fear* the lighteſt of the *perſpirable matter* only is *perſpired*, the weightier remaining: by *Gladneſs* and *Anger* both *perſpire*: whence *Sadneſs* and *Grief* breeds obſtructions, *Hardneſs* of the Parts, and *Hypochondriack* affects.

2. Nothing makes *Perſpiration* more free than a *Contented Mind*.

3. *Sadneſs* and *Grief* hinders the groſſer *perſpirable matter* to be evacuat; And that retained, by every light Cauſe begetts *Fear* and *Sadneſs*.

4. The *Acrimony* of the *perſpirable matter* retained by *Grief*, is taken off by *Chearfullneſs*.

5. Theſe that go to Bed ſad at night *perſpire* little.

6. *Melancholy* is overcome either by a free *perſpiration* or by *continual* conſolation of the Mind.

7. *Chearfulneſs* without an evident Cauſe that proceeds from the *Perſpiration* ſucceeding well, makes the Body become lighter

8. *Moderate Joy* evacuationly the *superfluous Matter*; but *Immoderate Joy* that that's useful.

9. A *Surprising Joy* hurts more than that which is foreseen: for it makes the *Spirits* totally exhale.

10. *Joy* persevering many dayes hinders *Sleep*, and dissolves the Strength.

11. *Aliments* that promove *Perspiration* make *Chearfulness*, and these that hinder it make *Sadness*.

12. These that are of a *Cholleriek* Nature are much hurt by *immoderat Exercise*: so *Hyppocrates* forbad such to use *frictions* and *wrestlings*.

13. The Body at rest *perspires* more, if the Mind be exercised: Then when the Body is exercised and the Mind idle.

14. So the immoderat Exercise of the *Mind*, hurts more than that of the *Body*.

15. The *Body* would wither and perish without the exercise of the *Mind*, but not contrarywayes.

16. A vehement *motion* of the Mind is neither settled by *Rest* nor *Sleep*.

17. Such as in *Game* do very earnestly desire to gain, do not *Play* but *Labour*, and do exceedingly divert *Perspiration*.

18. A *Moderat Victory* is more wholesome than

than a *Glorious One.*

19. Study with change of *Affections* is longer indured, than under one *Affection* of the Mind.

20. Study without all *Affections* scarce endures an hour, with on *Affection* scarce four; with frequent change of *Affections*, as in the the play of the Dice, it will be endured Dayes and Nights

21. To be sometimes Merry, sometimes *S*ad, and then again Angry, and nixt afraid This change of *Affections* helps *Perspiration* more then one of the best *Affections* alwayes continuing does.

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